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GLEANINGS

IN BEE CULTURE

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A JOURNAL
 DEVOTED
 TO BEES
 AND HONEY
 AND HOME
 INTERESTS

ILLUSTRATED
 SEMI-MONTHLY
 Published by THE A. ROOT CO.
 MEDINA, OHIO.
 \$1.00 PER YEAR

Vol. XXXIII.

APR. 15, 1905.

No. 8



A. I. ROOT, I'm afraid you're not treating your Rawle's Genet apples right if they're not fine by the last of March. In the list of Am. Pom. Soc. they stand VG, the highest mark for excellence, and they deserve it.

COLD STORAGE for wintering bees is advocated by me, p. 354, and J. A. Green advances the same idea; but as he comes two pages later, of course he's infringing on my patent. To save any hard feelings, however, let's join forces, Bro. Green, and have the method patented under the firm name of Green and Miller, Ltd.

N. D. WEST says, p. 365, "I find people are devising various ways for spacing these frames" (Danzenbaker); what does he mean? Is there more than one way to space self-spacing frames? [I did not notice the sentence on the first reading; but since you call attention to it I am unable to say what was meant unless he referred to the different *methods* of handling those particular frames.—ED.]

G. M. DOOLITTLE, p. 368, says a dummy is no better than an empty comb to conserve heat. Some one will reply to him, "That isn't fair. Of course a dummy won't, but we use a division-board, not a dummy. A dummy has a space on all sides, but a division-board makes a close fit, and closes up that part of the hive snug and warm." It does seem as if it ought to, but if I remember rightly Gaston Bonnier showed by actual trial that the empty comb was as good as the division-board.

"A COLONY with a caged queen will behave precisely as if it had no queen," p. 372. In this locality? Not by a long way. Slow-

er about starting cells, start a smaller number, and may start none. [I do not believe locality would have anything to do with this problem. Either you are right or I am. My observation has led me to feel that a colony with a caged queen would deport itself in the same way as one without a queen. I remember that they have done so; but as you have had a larger experience than I, I will accept your amendment until I can test the matter further. Or, to put it in another way, you are right and I am wrong in any locality.—ED.]

SUPPOSE two hives standing side by side, facing south, which is the right hand one? If I think of myself as standing in place of the hives, facing south, the right hand will be at the west. If I stand facing the hives, my right hand will be at the east side. I've been accustomed to the latter way, calling that the right-hand hive which was at my right hand when I stood in front of the hives facing them; but I'll change if the other way is the general fashion. How is it? [I can see that there might be confusion on this point in understanding each other; but if each of us adopt one invariable rule there will be no confusion in our own practice. If, for example, I stand in front of the entrances of two hives and point to the one at my right hand, I say that is the right one. I would be likely to designate all hives in the same way.—ED.]

THIS SUMMER, Mr. Editor, when you repeat your experiments with bees on ice, it might be interesting to repeat one made years ago—I think by Dzierzon or Berlepsch. A queen was frozen and recovered. It made her a drone-layer, the spermatozoa were frozen beyond recovery. [This is exactly the experiment that Dr. Phillips did perform, but he succeeded in getting no drone-layer. If I do not forget it I propose to leave some bees on the ice for ten days. Perhaps we will put some between two cakes of ice so as to make sure they are subjected to a practically freezing temperature. I should not be at all surprised to

learn that we can keep bees from five to ten days running, if at the end of every period we let them warm up and feed, then freeze again. If this thing can be continued indefinitely it would tend to show that a freezing temperature does not kill, but that when they can't feed because they are stiff and cold they starve.—ED.]

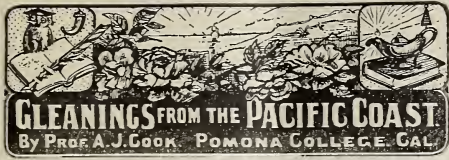
A CONUNDRUM is offered by Bro. Doolittle, p. 369: How is it that the septum of a brood-comb can preserve 92 degrees against the frosty air at the side? Let's try. Take a dish of wax boiling hot, and let it cool. As soon as the surface is entirely congealed, touch your finger lightly on it. Not very hot, is it? Wait a while and it hardly feels warm. Punch your finger in it, and it's scalded. How could it be so cool on top and so hot below? Because it is one of the poorest conductors of heat in existence. Even that thin septum will not allow the heat to pass through. Another thing that helps is the cocoons on each side of the septum. Still another is the air in the outside cells being to a slight extent dead air. [This experiment goes a long way to confirm the statement made by Doolittle, that a brood-comb is as good as a dummy. While the dummy would prevent the warm air from escaping around the ends and bottom, it would not be as good a non-conductor as the comb, so that one quality or factor would counterbalance the other.—ED.]

"OF COURSE, the veterans know that bees should ordinarily be set out in the cool of the morning or evening previous—better the latter," says the editor, p. 354. Not in this locality. Days just right for carrying out are very scarce; and when one comes, the whole of the bees must be got out as soon as possible, and with limited help the work can't all be done in the cool of the morning. Carrying out in the evening is ruled out entirely. In my whole bee-keeping life I never yet knew an evening when I dared risk taking out bees for fear the next morning might bring disaster. [But, doctor, you are hazing or obscuring the *real* point I was trying to make—that when one *can* set the bees out in the cool of the morning when there is prospect of a warm day ahead, or in the evening if the weather reports indicate "fair and warm" for the next day, he should do so. I was trying to point out the *ideal* time. Of course, localities will sometimes compel us to take the time we can get; but the average bee-keeper has only a very few colonies, and it would not take more than half an hour to put them all out of the cellar, hence he might as well select the *best* time. When the weather reports indicate "fair and warm" for the morrow, and it is about the season for setting the bees out, I would set them out the evening before, so that they might quiet down and avoid considerable confusion the next morning. When the bees are put out in a warm atmosphere, fifty colonies at once, it is liable to cause confusion. Then it is not best to set them out all at once. We practice and preach Doolittle's plan as described in this

issue, setting a part of the bees out at one time and the rest a week or so later. Sometimes it is an advantage to set out early. At other times it is an advantage to set out late. As it is impossible to predict what the season will be, we are sure to catch whatever advantage there may be, either in early or late setting out—in short, reduce the chance of some loss from either too early or too late setting out.—ED.]

THE SIBBALD PLAN, which so interests the editor, p. 353, is not likely to produce the same results in all places and all hands. Let me correct a mistake that may puzzle some readers. P. 359, first column, a little below the middle, "It will be remembered that, ten days before, we had given No. 1" should read "No. 2." You express the fear, Mr. Editor, that swarming might be induced in No. 2 by the fresh accessions. I don't believe there's the least danger, but I think your fears in another direction are well founded. You fear that, when shifts are made to throw bees from No. 1 into No. 2, some will hunt up No. 1, the strain of bees having something to do with it. I doubt much difference from strain of bees; but surroundings make much difference. I judge from some experience directly in point. When No. 2 is first set with no queen and only one brood, you may count on the institution of a search for something more home-like by the bees returning to it. On an open plain, with no surrounding object of any kind, you may pretty safely count on the bees finding No. 1 and sticking to it. With plenty of surrounding objects by which to locate the old stand, there will be less danger, possibly none. When the second shift is made, you may safely count that all field bees from No. 1 will go to No. 2; *but* if no surrounding objects, you may just as safely count, if the bees are like mine, that the field bees of No. 2 will also go to No. 1. In other words, No. 1 and No. 2 will merely swap field bees. If No. 1 is moved to an entirely new location in three weeks from first shift, in many locations there would be no danger of its swarming. In my location there would be danger. In the non-swarming plan, when, after ten days, the old queen and all the brood is back on the old stand as at the start, it may be that, in Mr. Sibbald's locality and in some other localities, the bees will have no further thought of swarming. In my locality they may be counted on to swarm in most cases. I know, for I have tried it many times. I'm not trying to throw cold water; only telling what to look out for. [Perhaps if I had substituted the word *race* instead of *strains* it would have been more exact. Some experiments we conducted a few years ago went to show that black bees would find their colonies, even when shifted around considerably, while Italians would hover around the old original spot until they died. A slight mixture of hybrid blood might defeat the Sibbald plan to some extent. It seems to me a good deal will depend on having the hives *exactly alike*, so when a shift

is made the bees will go, say, to the nearest south, east, or west side as the case may be—just as they had been doing before.—ED.]



HONEY-DEW.

In a recent foreign journal I find this statement: Honey-dew is abundant when the fruit is scarce, and the tree on the decline. This would lead one to believe there is still need of more knowledge regarding honey-dew. While honey-dew may be occasionally a secretion from the plant itself, and possibly an exudation, yet practically it is always a secretion from insects, either plant-lice or scale-insects. It no doubt serves them a good purpose. They secrete this to attract wasps and bees, which insects are fond of the honey-dew, and are quick to appropriate it, as the insects scatter it upon leaf or twig. The presence of the wasps and bees serves to repel the birds, for birds do not work with pleasure where wasps and bees abound. Unless they were thus kept away they would feed upon the aphids, or scale-insects.

The honey-dew from scale-insects is almost always dark in color and rank in flavor; therefore it can never make good honey. On the other hand, that secreted by aphids, or plant-lice, is often very delicious, and honey from the same would be pronounced by the epicure as of best quality. I have never known better honey than that secured from this source. Thus while the former honey-dew honey could never be used as a table article, there would be no objection to the latter for such purposes. I once had a large quantity of the dark rank honey, which I sold to a baker who used it to make honey-cakes, and raised no objection to it. Indeed, I ate of the cakes myself, and found them excellent.

While it is true that the insects which secrete honey-dew are a great pest to vegetation, yet they are often too few in numbers to affect seriously the plant or the fruitfulness of the trees and vines. Yet it must be said that both families of these insects multiply with great rapidity, and thus their presence is usually a menace to the plants that harbor them. I have seen, however, evergreen trees covered with honey-dew, and thus thick with plant-lice, and yet the trees were in the best of vigor, and were well loaded with magnificent cones.

In almost all cases of honey-dew the leaves and twigs become very black. This black substance is usually referred to as smut. It is really a fungus that attacks and feeds upon, if we may use that term, the honey-

dew. In California it is often necessary to wash oranges and lemons because of the presence of this smut. In fact, the worst insect-pests we have in California are scale-insects. A great many thousands of dollars have been expended in fighting them. Yet it is gratifying to know that the intelligence and enterprise of our people are equal to the task of their extermination.

There is one more thing that will interest all our readers. It is this, that we have found insects in several cases that feed upon these scale-pests, and by importing them into our orchards, we have been saved the further expense of fighting the scale-pests. In two cases such importation of such beneficial insects to feed upon and destroy our insect enemies has been of tremendous importance. I refer to the vedalia, a lady-bird beetle from Australia, which has entirely overcome the white or cottony cushion scale, an insect that seemed destined to wipe profitable orange culture from our State; and the other is the scutellista, a chalcid fly imported from South Africa, which, though very tiny, is fast exterminating the terrible black scale which has robbed our orchardists of thousands of dollars to hold it in check and save their trees and fruit.

WHAT IS HONEY?

I was very much pleased with Mr. Green's article. It seems to me that we better always face the truth. The truth is that we can never know the source of honey; and why, Mr. Editor, do you pronounce against honey from maple? The bees do not do so, but accept it when opportunity offers. Indeed, it is much like the nectar of flowers. It, like that, is cane sugar, and, like the floral nectar, it is flavored with vegetable extracts. I can see no objection to such honey; and even if there is, I do not see for the life of me how we are going to eliminate it any more than we can the honey-dew honey. As long as the bees have no prejudice we shall have to accept all such contributions. Even an occasional lift from some leaky sugar-barrel or molasses-keg, which has been left exposed, would not shock or disturb my conscience, taste, or sleep. I think we must define honey as the sweet that bees store in the comb, and that we can never be sure of its source.

DO BEES STORE WATER?

I was interested in a suggestion by the editor in the last GLEANINGS, that bees store water in the hive. I greatly doubt if this is true. I think the bees take the water to use at once. In our own case, and with all animals, water remains but a very brief time in the alimentary canal. Almost as soon as quaffed, it passes through the walls of the alimentary tube to mingle with the blood. Who of us has not proved this in his own experience? We are very thirsty, and feel that we can hardly drink too much water at the instant; yet if we drink but little, and wait a moment the desire for

more is gone. This brief time measures the passage of the water to the blood. How often is the same true of horses! They come to the drinking-trough very thirsty. Given an opportunity, they will drink enough to injure them, perhaps enough to prove fatal. If, on the other hand, we give them a little and then in a few minutes we offer them more, they refuse to take it. Next to oxygen, water is the greatest requisite of all the food elements. In bees, it is the medium, so to speak, that carries all the others. No wonder that the ever active industrious bee needs water, and so hies to pool or spring. They sip the water, and it passes at once to the blood. Our knowledge of the way water acts with higher animals will convince us of this fact. It would also prove poor economy for the bees to put this into the cells where it would at once mix with the honey, only to be evaporated later.

ANOTHER DEFINITION OF HONEY.

I have often referred to honey as digested nectar. Most of our honey is floral honey, or comes from flowers. This is cane sugar, which is chemically very different from the glucose or reducing sugars. It is also less soluble and less assimilable. If cane sugar is injected into the blood it is not used, but is eliminated by the kidneys. This shows it unfit for metabolism. The same is not true of reducing sugars. Thus with all animals, ourselves no exceptions, cane sugar must be changed to reducing sugar by the digestive processes. The bees do this with the nectar, and the result is honey. Yet this definition is really an imperfect one, for, in case the bees take honey-dew, they take a reducing sugar which then, of course, needs no digestion. This really may be an argument in favor of honey-dew for bees, just as we argue in favor of honey for human food. No doubt honey is one of the most excellent sugars for us, as it is already digested, and so is no tax on the body energies. I have not a doubt that it requires less vital energy for bees to produce honey from honey-dew than from floral matter. For honey-dew, like glucose and honey, is already a reducing sugar.

THE SEASON IN CALIFORNIA.

Bee-keepers in the East will be glad to hear that California bee-keepers are all jubilant at the present time. I have now lived in Southern California over 11 years, and never in all that time have we had any thing like the prospects for success along all agricultural lines that we have to-day. This is peculiarly true in the direction of honey-production. I have just visited the canyons, and the wealth of flowers and the promise of future bloom is truly gratifying. I can see no possible chance of a honey failure the coming year. Of course, continuous cold winds are always unfavorable to a honey crop. That we should have such winds for the season through is certainly not to be expected.



INSPECTOR Hutchinson has practically cleared Northern Michigan of foul brood, at least he doesn't know of any that exists there at the present time.

I DO not now remember a more favorable spring for bees than this. Reports of good springing and good wintering have been universally favorable.

REGARDING the Sibbald non-swarming system, two different bee-keepers claim priority in a published description of the method, and both say it is all right. Particulars next issue.

PARTICULAR attention is directed to the article by E. W. Alexander in this issue, on his method for running for increase, and at the same time controlling swarming, and getting big crops of honey besides. It is not often that we publish an article which has more intrinsic merit than this.

PUNIC (TUNISIAN) BEES.

THERE has been considerable discussion of late in the *American Bee-keeper* regarding the merits of this particular race of bees, introduced some years ago by Mr. John Hewitt, of England. About thirteen years ago we tested the stocks of two different queens sent us by Mr. Hewitt; but we found them to be very undesirable, bad about propolizing* and stinging, and in every way they were much inferior (unless in the one point of honey-gathering) to Italians, and I so reported in these columns at the time. The editor of the *American Bee-keeper*, after copying this editorial, calls attention to the fact that "Mr. Root is not very explicit as to the extent of the test which was there given of these bees." As above stated, the opinion was based on two fair-sized colonies from the two queens obtained direct from Mr. Hewitt. If I remember correctly the queens were imported by Mr. Hewitt himself, and then afterward sent us. Our experience with the bees at the time seemed to be quite in line with that of Editor Cowan, as reported in the *British Bee Journal* of June 16 and July 7, 1892, and later with the article by Mr. Benton in the October *American Bee-keeper* for last year. If I am correct the Punicas are nothing more nor less than the Tunisians under another name. While I admit our test was not conclusive by any means, yet because of the undesirable traits that we discovered, and

* They not only daubed the frames, but smeared the cappings of their combs with a dirty-red glue.

were found by others, we did not think it worth while to get any more of them.

If later tests of them shall prove that our earlier reports were unfair we shall be very glad to be corrected.

THE IMPORTANCE OF HAVING LAYING QUEENS IN RESERVE TO SUPPLY FULL COLONIES IN THE BROOD-REARING SEASON.

In this issue Mr. E. W. Alexander makes the very good point that he does not like to keep his "full colonies a day longer without a queen than" he can help. This is very important. Just before the harvest, a good colony that is interrupted for a day or two in egg-laying must necessarily show up a deficit in field bees, just at a time of the year when it can least afford it. This all goes to show that the honey-producer ought to have a reserve of laying queens in nuclei ready for immediate service. The little baby boxes of bees described in this issue will meet the emergency most admirably; and right here the practical honey-producer should see the value of these miniature hives for his own use; in other words, he should rear his own queens, then have them fresh and ready to lay as soon as they are introduced. A queen just from the mail-bags requires a day or two before she can recover from the suspension of egg-laying; and the bee-keeper who is looking to the profit should see to it that his full colonies just prior to the harvest be not interrupted in their daily accession of eggs and young brood. Brood at the right time means honey, and honey means money, and money means profit.

THE MISSOURI FOUL-BROOD BILL VETOED BY GOVERNOR FOLK.

THE bee-keepers of Missouri have been putting forth strenuous efforts to get through a foul-brood bill providing an appropriation of \$1000 a year and an inspector, a good deal on the plan of the excellent foul-brood law of Wisconsin. The bill passed both Houses, but unfortunately was vetoed by Governor Folk, who, it must be assumed, thought he was doing Missouri a real service. Governor Folk is a man whom all good people everywhere in the United States must admire as an honest and fearless servant of the law. His record is something to be proud of. Would there were more like him. But even the best of men make mistakes. The reason given by the Governor for this veto shows that he did not understand the nature and extent of the bee-keeping industry; and this only goes to show that it is important that bee-keepers, when a bill is pending in any legislature, also see the governor, if he has the veto power, and make sure he is fully informed of the need and object of the proposed law. If that had been done in this case, Missouri would undoubtedly have had a foul-brood law second to none of those in the United States.

We have already written Governor Folk,

expressing our regrets, but saying at the same time that, if he were ever a candidate for the presidency of the United States, we should probably cast our votes for him, irrespective of his action in this case, as we believe him to be one of God's noblemen. It is to be sincerely regretted that he did not call in a few representative bee-keepers and inform himself before he took the step he did.

AN INTELLIGENT AND CONCERTED EFFORT TO ADVANCE PRICES ON HONEY; THE HONEY-PRODUCERS' LEAGUE.

ATTENTION is called to the new Honey-producers' League, a prospectus of which is given on page 437 in this issue. While I had but little or nothing to do with the formation of this new organization, I believe it to be the most intelligent movement yet inaugurated to remove the false impressions concerning both comb and extracted honey, and to advance the prices on both. While the League has been raising its funds, it has already been doing splendid service in securing retractions and fine write-ups in some of the leading papers, on the general subject of honey. For example, the New York *Evening Post*, one of the most influential and dignified dailies in the city of New York, published the usual misstatements in regard to the bee business. Two representatives of the League called on the editor and publisher and explained the facts in the case, with the result that, on April 6, he published a splendid editorial on the subject of "Zoological Morality." We have not space here to give the whole of the article, but here are a couple of sentences: "A week or two ago the *Evening Post*, which has only the most friendly feeling toward the honey-bee, was guilty of a grave injustice in its treatment of that insect. . . . There is no method for artificially sealing up the comb, and no ingredient can enter honey in the comb without the consent of the bees." The article all through is written in a most pleasing style, and occupies a great deal more space than the original item maligning our little friend the bee.

Other articles are in the hands of publishers, with a fair prospect of publication in full. You see, here is the point: When The A. I. Root Co. or any other interested party would write protesting, the publisher or editor would naturally suppose there was "an ax to grind." If he published a retraction at all, it would sometimes be even worse than the first item, or practically shove the poor bee and the bee-keeper from the frying-pan into the fire.

Perhaps it would be well to explain that the new organization has a new field, and does not in any way encroach on the territory of the National. The two will work together in harmony. If the bee-keepers of the country hold back their contributions toward this laudable enterprise they will have only themselves to blame if the honey market is not materially toned up within a year or possibly less time. So far the new League

has secured several write-ups without a dollar of expense; but it can not do this long without money to help. If there is any beekeeper who thinks that the new organization is a good thing, and that it will go any way, even if he does not help it, and that he will secure the benefits without his contribution, he will be most woefully mistaken.

ARE SUPPLY-MANUFACTURERS CHARGING EXORBITANT RATES FOR BEE-KEEPERS' SUPPLIES?

IN these days when some of the grasping corporations and trusts are charging "all the traffic will bear," extorting money out of the people, compelling railroads to discriminate against the small concerns and in favor of the big ones, inflating prices to flood the market in order that they may buy at ruinous prices—in short, conducting their business "in restraint of trade"—it would not be surprising if every corporation would be placed somewhat under the ban of distrust. We have been very much interested in reading some of the *exposes* of some of these gigantic concerns, and we must confess that our sympathies have been with the people. But there are corporations and corporations—some good and some bad. Every little while there have been various hints and suggestions that there was a beekeepers' supply trust; that prices have been advanced away beyond all precedent, so that bee-keepers would have to go out of the business, etc. We have paid no attention to these, believing that the intelligent discriminating bee-keeping public would of itself sift the truth from fiction; but when a couple of our old-time friends get caught in the toils it is, perhaps, time for us to say something. One correspondent, I see by the *American Bee Journal*, Mr. E. A. Morgan, the ABC scholar of thirty years ago "who grew so fast," and seemed to be a special pupil of A. I. Root, makes this remarkable statement in reply to Editor York in the *American Bee Journal*: "The supply-dealers do take the statement from Washington to raise their prices on supplies, however much you try to cover it up." Editor York had already said he did not believe that any statistics from the Department of Agriculture going to show that there was 100 per cent profit in bees had anything to do with the recent advance in the price of beekeepers' supplies. So far as the Root Co. is concerned, this is the first time that we ever knew such a statement had emanated from Washington. The proposition is so ridiculous on the face of it that there will be no use to argue it. That supplies have advanced has been only natural because of the advance in lumber and wages—for we are supposed to know the conditions surrounding our business as well as or better than the government.

Further on in the same paper Mr. Morgan makes another remarkable statement, or a series of them, rather. Here they are:

But you ask, "Is it true that prices have doubled?"

and ask The Farmer to give a single instance of a case in which any manufactory lists a hive at double the price at which it listed it at any previous time. This is the greatest break in your whole article. Would you please name one single manufactory that *hasn't* doubled prices on supplies? and many have trebled.

I have before me bills paid in 1879, 1880, 1881: 8 frame Langstroth hive, 1½ story, nailed and painted, 75 cents. That was before the day of sections, but eight 5-pound boxes were furnished with glass sides.

In 1889 hives took a drop. I bought, that year, 100 hives, 10-frame, 1½ story, in the flat, at 50 cents. When sections came on the market they were sold at \$1.75 per 1000; later on, sandpapered both sides, \$2.00 per 1000. This as late as 1897; since that time they have doubled in price.

At the first-mentioned date honey sold in the comb at 25 cents to 30 cents per pound. In 1883 I sold my entire crop at 17 cents, and paid \$1.00 each for 10-frame 1½-story hives, and \$2.00 per 1000 for sections; and now, when the best comb honey must be sold at 11 to 14 cents, extracted 7 cents, delivered, they ask \$2.45 for an 8-frame, 1½-story hive, and \$5.00 per 1000 for sections.

Assuming, for the sake of argument, that all manufacturers of bee-keepers' supplies had doubled their prices, would there be any crime or any thing wrong, *providing* the cost of material had doubled and labor materially increased during the same time? But it is not true that "all the manufacturers have doubled their prices," and that "many have trebled them." To prove that one or two had done so would not sustain either claim.

Of course, we can speak only for our own company. We concede it might be *possible* to find some catalog showing that prices had doubled. Some ten or fifteen years ago there were many supply manufacturers who made their prices so low that they had to go out of business. Something like a score of them in the early days failed. They did not take into account overhead expenses, advertising, bad debts, and fixed and various other expenses. Now, if these concerns had since learned their mistake that their prices were too low to live, and *later* put them high enough so they could continue from year to year, it is conceivable that there might have been 100 per cent difference between their *first* prices and those at the present time. At all events, Editor York asks Mr. Morgan to furnish "a single instance or a case in which any manufactory listed a hive at double the price at which it was listed at any previous time." And in return Mr. York is asked in all soberness "to name *one single manufactory* that *hasn't* doubled prices on supplies, and *many have trebled*." The first and last italics are ours. This is a strong and sweeping statement. It means that *all* the factories have doubled and many have trebled old prices. If Mr. Morgan had investigated even a little bit, which he could easily have done, he could have saved himself the humiliation of such a "bad break." If his other statements are as accurate as this he could scarcely blame his friends for believing that his prejudice has so warped his judgment that he is incapable of weighing evidence carefully and impartially. If he had compared the Root's prices as given in old files of GLEANINGS (and he is an old subscriber), or those given in our early catalogs with those given in our late catalogs, he would never have penned the sentence.

To compare prices made in old bills on hives *without stating the kind or quality* quoted, or whether they had inside fixtures or not, with hives of to-day better made, probably, and *listed in an entirely different manner*, is decidedly misleading and unfair. If he is comparing a home-made hive with a better-made factory hive as now made, he is scarcely less unfair. If he is comparing a hive made at a price that compelled the maker to suspend business or sell out, with a price on an up-to-date hive turned out by a responsible factory that has done a successful business for twenty years, and has given its employees living wages, he is again doing violence to the principle of justice and right. If he is comparing a quantity price as per the bills mentioned, with a less quantity price on goods now made, he is still open to the accusation.

The quotations in the second and third paragraphs are indefinite, and therefore irrelevant. In order to prove his most sweeping statement in his first paragraph it is up to Mr. Morgan to show by references to bills, advertisements, or catalogs, of widely separated dates from the *same firm*—not from two different ones—that prices have “doubled” and “trebled” on practically the *same goods of the same quality*, size, style, and quantity. Then it will be up to him to show that *all* the manufacturers (not a part of them) are guilty of the offense of doubling prices, and that *many* are guilty of trebling them. And right here, before we show that at least one company is not guilty as charged, it is proper to explain how supplies were listed years ago and are now.

So far as I know, the hives that were made and sold ten or fifteen years ago are almost entirely off the market, and new patterns, with a new method of listing, have taken their place. As Mr. York points out, it is very difficult to compare prices on hives of twenty years ago with those of to-day. We, for example, are not making a single hive that we made years ago. Moreover, the hives that were quoted in the early catalogs were, as a rule, *hives only*, without any inside furniture. No attempt was made at that time to give the practically clear stock given to-day; and it was only within comparatively late years, with some exceptions, that inside fixtures were included. Of course, prices have advanced since these inside fixtures have been made a part of the equipment.

A few years ago another advance was made by ourselves above the former advance when we included not only sections, foundation, and brood-frames, but foundation for the brood-nest, nails to nail the hives up with, and hand-hole cleats over the hand-holes. The convenience of having assorted nails of the right size and quantity is very great. The extra equipment, better quality of lumber, and a general advance, both in lumber and in wages, have necessarily made the price of bee-supplies higher; but that advance has only kept pace with the advance in material and labor. We have no old cat-

alogs of other manufacturers at hand, but we have our own away back almost to the beginning of our business. As was stated at the outset, it is almost impossible to compare prices, because the articles listed are very different, and include a different equipment from those a few years ago. But I find a few articles that we offered away back in 1880 that we still furnish, made in exactly the same way as when first listed. Let us take what is known as the all-wood frame. In 1881 this frame was priced in the flat in lots of 100 at \$1.75. Let us now compare the list of 1905 and see what we have. The same frame is quoted at \$2.00 per 100. Between the first-mentioned date and to-day these same frames dropped down to \$1.20 because of improved machinery; but between the \$1.20 price and the \$2.00, lumber out of which these were made advanced over 50 per cent, and labor 25 per cent, and the frames went up to \$2.00.

Again we go back to 1881, the time mentioned by our correspondent, and we find one-piece sections, surfaced on one side only, a good deal the same as we make now, although, of course, not as well made, listed in our catalogs for that year at \$4.50 per 1000. Again, in 1885 they were quoted at \$5.00; in 1895, ten years ago, \$3.00, and that price continued for several years when it advanced in 1891 to \$3.50 per 1000, owing to the advance in the price of basswood which then began to take place. Basswood continued to go up, and sections jumped to \$4.00, and finally reached the present rate, \$5.00. When sections were selling at \$3.00 we were buying basswood lumber at from half to two-thirds the prices recently paid. Then we made sections nine to the inch, while we are now making eight to the inch. The principal item of cost in sections is lumber. So that it will be seen that sections have only kept pace with lumber. Sections at \$2.00 in single thousand lots? We never sold any at that price, nor did any one else very long. They either sent out very poor goods or sold out, as they could not stand the price.

Let us now go back again to 1879, the time spoken of by Mr. Morgan. In GLEANINGS for that year, page 73, we find the 1½-story ten-frame portico hive, including ten all-wood frames, section-crate, and separators, quoted at \$1.90. A little later on, this hive was quoted at retail, in the flat, single lots, at \$1.70. The nearest hive we have to this at the present time, a 1½-story ten-frame Dove-tailed, is \$2.30 in single lots; but the present \$2.30 hive has foundation starters for the brood-nest, Hoffman frames with thick top-bars, nails for frames, for hive-cover, bottom-board, body, super, and all, complete. The old \$1.70 hive was made of a lower grade of material, cheap frames with their top-bars non-spacing, a cheap section-crate—a hive that in nowise compares with the corresponding hive of to-day of *practically clear stock*. Considering that pine lumber has advanced over 50 per cent in price, and labor 25 per cent, I really do not see where

the extortion is here. But it should not be forgotten that the hives of 1879 and early 80's contained knots—in short, a very inferior grade of lumber. Those of to-day are almost entirely of clear stock; but between 1880 and the present time there was an intermediate price, and that was just before the advance in labor and material. Turning to our catalog for 1892 we find nearly this same Dovetailed hive, without foundation starters and nails, single rates, \$1.40. Comparing this price, \$1.40, with the price of a similar hive to-day, and we have a price of \$2.30, but this \$1.40 price does not include by any means all the value represented in the \$2.30 hive. The latter has foundation starters in the brood-nest, nails complete for every part, hand-hole cleats, and a far better grade of lumber, which the \$1.40 hive did not have. To make the comparison fair, the \$1.40 hive, if it had contained the same value as represented in the \$2.30 hive, should be listed at \$1.60, not \$1.40, so that the real advance has been from \$1.60 to \$2.30, or an advance of 44 per cent instead of 100 per cent or 200 per cent, as claimed by Mr. Morgan. Lumber has advanced over 50 per cent, so that our 44 per cent is not out of the way.

If we compare the 50 and 100 rate on this same hive, the relative difference will be much less than the single rates as above shown.

Some may say that these particular instances showing prices picked out at different dates are *selected* to prove our side of the case. This is not the fact. They are only an average, as any one can prove by looking up.

In the line of metal goods made almost exclusively by The A. I. Root Co., and sold to our competitors, there has been only a very slight advance, and in some cases *no* advance at all. The price of the raw material, while it has fluctuated, has advanced only slightly as compared with lumber. For example: The Clark smoker has been sold for about twenty years at 50 cents each, and has been 55 cents for the past two years; Novice honey-knife was 75 cents for twenty years, now 80 cents; No. 5 Novice extractor was for twenty years sold at \$7.00 each. It is now \$8.50, and made very much superior to what it was formerly. So with other extractors. There has been an advance in price of about 15 per cent, and they have likewise been greatly improved. Comb-foundation mills, of which we are exclusive manufacturers, are practically the same in price they have been for years. The 2x10 mill was sold years ago at \$20.00—now \$25.00 Still *earlier* we sold the same mill at \$50.00; then when we had worked out a cheaper process we reduced the price accordingly. The mills now turned out are so far superior to those made years ago at \$20.00 that they hardly furnish a comparison. Parker's machine, Coggs hall brushes, T tins, rabbets, comb-buckets, etc., are selling at the same prices that they have always been.

If we were actuated by the report from Washington, as stated by friend M., would we not more likely advance such articles as we manufacture exclusively and supply to other manufacturers and dealers because we more completely control the price of such goods? The fact that the greatest advances have been made in articles in which there is the widest competition ought to be evidence to any candid mind that the advance is due to other causes than a desire to enrich ourselves unduly at the expense of bee-keepers.

Every year we have been in business since 1878 goods have been sold cheaper than we sell them, and the same is true at the present time. We have always had all the business we could do, and much of the time *more* than we could do and do well. We have had opportunities to buy out competitors, but so far have absorbed none of them. We do not believe in the principle of these great trusts that swallow up the little concerns and crowd the rest to the wall. This country is large enough in every way to support a number of large and small manufacturers of bee-keepers' supplies, each one of them working on an independent basis.

It is proper to remark, too, that, during the period of intermediate prices, we were compelled to skimp the workmanship and material somewhat until we got protests to the effect that our customers would rather pay more and get better goods. We finally changed our policy, making the best goods that machinery, material, and brains could turn out, and advanced the price to cover the increased cost. We were praised for our efforts until Root's goods have a distinct reputation of their own.

There has been another statement made, to the effect that dealers' catalogs are all printed on the same type. Of course, the catalogs of the Root Co.'s dealers are printed right here at our own factory, and why should they not be? Of course, all of these dealers sell at our prices where the freights will permit.

Even our old friend E. E. Hasty has fallen into the swim of a few of the discontents. In one of his late articles he says that "a well-ordered twentieth-century hive-factory should be ashamed of itself if a single individual, without a bit of machinery, can make his own hives and make more than wages at it." Now, dear friend Hasty, are you not "hasty" in making that remark? Do you absolutely *know*, beyond hearsay, that you or any one else, using the same quality of lumber, and workmanship of exactly the same style throughout, can make "more than wages"? If it were true, it would indeed be a shame. If you can, we will make you a present of 25 of our complete hives, you to take your pick. We admit that one might make good wages if he is willing to put up with poor workmanship, and hives full of knots, loose and sound. It is not fair to compare a hive of that kind with the hives of to-day, made of practically clear stock, and fits that are guaranteed.



QUEENS' CAPACITY FOR EGG-LAYING.

The Size of Brood-nest for Comb-honey Production; an Interesting Experiment with a Pair of Old "Long-Idea" Hives.

BY G. M. DOOLITTLE.

In getting my volume of GLEANINGS for 1904 down ready for binding and filing away for future reference or reading, I happened to notice Dr. C. C. Miller's Straw on p. 967 of the October 15th issue, where he alludes to what I said in a previous number as "somewhat startling." The entire Straw reads as follows:

"Somewhat startling is the statement made by Mr. Doolittle, p. 925, that 9 Gallup frames, the equivalent of $6\frac{2}{3}$ Langstroths, are enough to 'entertain the best queen to her full capacity as to egg-laying.' Allowing $\frac{2}{3}$ of a frame for pollen and honey, and counting that the remaining six frames will be entirely occupied by the queen, that figures up only a little more than 2000 eggs as the queen's daily stint. Yet isn't it Mr. Doolittle who tells us that a queen goes as high as 5000 eggs in a day?"

As there are some things of more importance than the number of eggs a queen *can* lay, I should like to say something further in this matter. A very important fact in this case is, that what I said on p. 925 was for the *comb-honey* producer, not for the one producing *extracted* honey. But I think I hear some one saying, "Does the working for comb honey decrease the queen's egg-laying capacity any? or does the working of a hive for extracted honey have any thing to do with the capacity of the queen for egg-laying?" I answer yes, to both questions. There is something about extracting honey that causes the bees to feed the queen, or *force* her egg-laying powers to such an extent that she will give more than double the eggs, if she has *comb room*, that she will when no extracting is done, and thus a queen is coaxed to produce and develop all the embryo eggs she has in her ovaries, in the shortest possible time, while under *normal* circumstances she will be laying up to her *full* capacity when not producing half the number of eggs she does under the stimulating influences which come through the bees when the colony is worked for extracted honey. Let me illustrate:

In the latter seventies I became quite enthusiastic over what was known as the "Long-idea hive," as recommended by D. L. Adair, a prominent bee-keeper of those days. I made two of these hives, which were 4 ft. long and held 32 frames, instead

of being $13\frac{1}{2}$ in. long and holding 9 Gallup frames, as I was then using almost exclusively in my apiary. In the spring I selected two average colonies; and when the 9 frames were pretty well filled with brood, and covered with bees, they were set over into these four-foot hives. At the same time, I selected two other colonies as near like the first two as possible, one to be worked for extracted honey on the tiering-up plan, and the other to be worked for comb honey, the same as I had been in the habit of doing, so as to test the matter of these long hives for both comb and extracted honey, side by side with the older plans. In due time the two long hives were filled out with 32 combs each, while the other two were held down to their 9 frames each, as formerly, giving the two worked for comb honey the same number of sections each, and those worked for extracted honey the same number of combs each, and all worked to the best advantage possible. Now for the result:

When the basswood harvest arrived, the queen in the long hive (worked for extracted honey) had brood in every one of the 32 frames of comb, to the amount of about 20 combs solid full, while the one worked for comb honey, having 32 combs, had brood in only 13 combs, the same amounting to not over 9 frames *full*, the rest of the comb being occupied with honey, which ought to and would have gone into the sections had the brood-chamber of the hive been of the size it should have been. So the queen from the extracting hive was laying about 5000 eggs daily (as Dr. Miller says I admit a queen *can*), to where the one in the comb-honey hive was giving only about 2000, each queen evidently laying to her full capacity under their different environments, those environments being the same as the bees always allow, so far as my experience goes, under like circumstances, for I have experimented largely along these lines. All four of these queens were reared the season before, so were at their best. The one in this long extracting-hive died that fall of old age, while the other three lived to do good work for two more seasons, as my record for the different hives tells me by referring to it.

Perhaps the reader would be interested to know of the results in honey. This long hive worked for extracted honey gave 566 lbs. that season; and the other, worked on the tiering-up plan, gave 406. This shows that, with only 9 combs for brooding, the bees from the same produced as much surplus into 160 as did the 20 combs of solid brood. My idea is that the cost in honey of rearing that extra brood in the long hive was so great, right in the honey harvest, that they failed to give about 1200 lbs., which logic says they should have given, had each stored in proportion to the brood reared. But how about those worked for comb honey? The one worked with the 32 combs gave 49 lbs., with the 32 combs nearly solid full of honey in the fall, while the other

gave 309 lbs., with honey enough in the 9 combs for wintering, or a total of 241 lbs. for the long hive and 334 for the nine-comb hive, counting all that was stored in sections and combs during the season, this showing that the nine-frame brood-chamber had an advantage over the 32-frame in some way, saying nothing about the nine-frame hives putting the most of theirs in a salable form. And I find that, at the out-apiary, where I use the ten-frame Langstroth-frame hive, it is a rare thing that I get more than six frames solid full of brood at any season of the year, or only about the same that I get with the nine Gallup frames. To be sure, I often have brood in the whole ten frames, but not more than enough to fill about six frames, or the equivalent of what is put in the nine Gallup frames. Now if, when working for *comb* honey, I get the amount of only six Langstroth frames *full* of brood out of ten frames, or only nine Gallup frames *full* of brood where 18, 24, or 32 such frames are used in a hive, can Dr. Miller say that nine Gallup frames or $6\frac{3}{4}$ Langstroth frames will *not* entertain the best queen to her *full* capacity in this locality? Perhaps my locality is quite different from that of others; but I am more inclined to think that, if any close experimenting is done, what is applicable to *my* locality will come very near the truth in *other* localities, along this line of the capacity of queens when the colony is worked for *comb* honey. It has always seemed to me that the proposition before the practical apiarist should be, not how many eggs a queen can lay, but *what size of brood-chamber will give the best results in surplus comb honey?*

Borodino, N. Y.

THE CATALPA-TREE FOR HONEY.

Also Something in Regard to the Different Species of Catalpa for Other Purposes.

BY FREDERICK D. WEBLEY.

Dear Mr. Root:—Will you or any of your readers give advice as to the variety of catalpa most desirable to grow for honey-production? On page 255, of 1904, Prof. W. J. Green, states that the hardy catalpa does not produce as much seed as the other varieties. The inference is, that it does not produce as many flowers, and therefore does not yield as much honey. Is that correct? If the hardy variety is as profitable to the bee-keeper for its yield of nectar as the others, its qualities as a timber tree, producing wood that is both light and tough, make it intrinsically more valuable. What is the honey-value of the other varieties—native, Japanese, and foreign? and what are the distinguishing features of each? Where can seed be obtained? In Santa Rosa we have a free-flowering variety, used as a shade-tree, and growing well in the streets and avenues, and producing a fair amount of honey of average quality. The seeds of

this variety I inclose, and I should be glad if you can tell me what it is.

If Mr. Otto Lohndorff, of Visalia, Cal., has had any experience in growing the catalpa, and will communicate it, other readers of GLEANINGS besides myself may be interested. I should also like to hear of his experience in growing the basswood in California, which he was experimenting with, and wrote about some four or five years ago. The view given of the grove of catalpa-trees on page 2110 shows the Japanese variety to be distinct in growth and foliage from the American. Did our venerable friend and veteran bee-keeper, Jerry Wood, plant these trees for bee-pasturage or for timber? Probably only he could answer, unless the writer of the article, Frank McGlade, knows.

Santa Rosa, Cal.

[As we have had but little experience with catalpa here in Ohio, the above letter was referred to our Ohio Experiment Station, and below is the reply:]

Mr. A. I. Root:—Your letter to Prof. Green, inclosing a letter from Dr. Frederick D. Webley, of Santa Rosa, Cal., has been received. In Prof. Green's absence I will reply to the same.

I know very little about the comparative merits of the different species and varieties of catalpa for honey-producing purposes. I will give, however, so far as I am acquainted with them, the characteristics of the different species.

Catalpa speciosa, also called the western or hardy catalpa. The tree is upright in growth, with very large leaves and an abundance of bloom, although not as free a bloomer as the *C. catalpa*. The individual flowers are larger and more showy than any of the other species. The *speciosa* blooms at Wooster from the middle to the last of June. The bark of the older trees is furrowed, somewhat like the walnut, but not so marked; the younger trees also show this characteristic to some extent. The fruit-pod is from 12 to 18 inches in length, and $\frac{1}{2}$ inch or more in diameter. The seeds are broad, and the filaments (hairy projections at ends) extend out straight.

Catalpa catalpa, also called *C. bignonioides* and southern catalpa. The trees of this species are low-branching, with long crooked limbs. The flowers are somewhat more profuse than on the *speciosa*, but not in the same proportion as the fruit. The flowers of this species apparently set a larger per cent of fruit than the *speciosa*.

The pods are from 8 to 12 inches in length, and less than $\frac{1}{2}$ inch in diameter, as a rule. The seeds are not so wide as the *speciosa*, and the filaments are drawn toward a point at the ends.

While there are trees that are clearly defined in all of their characteristics as either the *speciosa* or the *C. catalpa*, there are also trees which have some of the characteristics of both. This makes the matter of identification more complex; and because of the apparent *crossing* or *variation in type*

it is not safe to determine a variety by the seed alone unless the characteristics be very clearly defined, and are representative of one of the species.

Catalpa ovata (Kæmpferii) is a Japanese species, but has not been grown very generally in this country. The flowers have a yellowish cast which in itself is sufficient for identification of the species. The fruit-pods are very long and very slender. The seeds have the appearance of very much reduced speciosa seeds.

The seeds which Dr. Webley sent are of the speciosa type. He should be able to determine for a certainty from the above description whether they are speciosa or not, in which case he will need no other seed. There is but little of the catalpa seed grown in this part of the country, and all I know of is spoken for.

C. W. WAID, *Ass't Horticulturist*.
Wooster, O.

HOW TO CATCH HONEY-THIEVES.

Don't Advertise a Reward, but Get out a Search Warrant and Search for the Stolen Property.

BY ELIAS FOX.

I should like to reply to G. M. Ames, page 1161. I am of the opinion the only good to be derived from putting up a sign offering a reward for the capture and conviction of thieves would be to attract attention and encourage this class of people, as they could say, "Well, I will show him I can disregard that sign and not get caught." There is one thing certain—any one doing this kind of work is going to do it in such a manner that there will be no one to squeal on him, and he won't be foolish enough to tell of it so he could be informed upon from this source. As Mr. Ames is at a loss to know what to do, for his and others' future benefit I would say, have a search warrant issued, and placed in the hands of a competent officer, and search all suspected premises. You will doubtless say, "What proof have we, should we find honey on the premises searched?" If an officer is on to his job he will get a confession out of the guilty parties. As an explanation I will cite you a similar case we had here two years ago. An implement-dealer here in the village had bought a dressed hog, and had it upstairs in the warehouse, and the door locked every night. One Sunday morning he had occasion to go upstairs, and found the staple drawn and the meat gone. I being a deputy sheriff he came to me and asked what he should do. I told him if he would have a search warrant issued on Monday morning I thought I could find his meat; so, with little faith, he had the warrant issued on Monday morning, and handed it to me with the remark, "If you find that meat you are a dandy." I had three names of suspected parties put on the warrant, and in the second house I visited I found a small piece of meat, but could not identify it, and at the third house I found two stone jars

tucked away in the corner of a small pantry, packed full of pork, covered nicely with brine, and jars covered with large dinner-plates, and a ham of meat on a shelf from which they were cutting fresh steaks. The meat in jars, to all appearances, had been packed for a month. I unpacked it and cut the largest piece in two, and cut a small piece out of the center of it, and tasted it, and it was slightly salted through. When questioned as to where he got it he stated that he got it from a certain farmer four miles out of town. I got the owner of the meat, but he could not identify it. It was then 11 A.M.; so, after dinner, I hitched up my team and drove out to see the farmer, but could get nothing definite from him, but I could see the trend of his story. Being forty miles from the county seat I phoned to the district attorney and laid all the facts before him, and he thought the fact of our not being able to identify the meat would not warrant us in making an arrest. Regardless of this, I was satisfied I had the right party, so Tuesday morning I had a subpoena issued for the farmer in question, and went out and brought him in. I had him sworn, and he testified that the suspected party had come to his place, cross lots, just before I reached there, the day before, and told him he stole this meat, and wanted him to swear that he sold it to him; but he told him if there was any honorable way he would aid him, otherwise if he was put under oath he would testify to the truth. Then I had a warrant issued, and arrested the suspect, and he confessed before I reached the justice's office with him, plead guilty, and paid his fine and costs. So I say, when crimes of this kind are perpetrated, and we have good reasons for suspecting any one, instead of setting down and putting up scarecrow notices, get after them; get the right parties, and convict them, and thus hold them up as an example for others, and I will guarantee there will be no more honey stolen from your yard. ELIAS FOX.

Hillsboro, Wis., Dec. 26.

[In some localities the putting-up of a reward of \$100 for the arrest and conviction of thieves would work very well. It has served a most excellent purpose at our out-yards. Prior to the putting-up of these signs we had some trouble, but that has now entirely disappeared. In other localities it would, perhaps, be best not to advertise the fact, but proceed on the plan of a search-warrant as described. I remember there was some petty thieving done in our town some years ago. An officer, armed with a search warrant, made a general search and very soon located all the stolen goods. As a result, the holder of them served time in the penitentiary.]

Extracted honey and a good deal of comb honey could be so changed in form of package, perhaps, as to make its sure identification very difficult if not impossible. If each of the individual sections were stamped (which, as a rule, they are not) it might then be easy to prove ownership.—Ed.]

UNRIPE EXTRACTED HONEY.

Not Profitable to Extract; Injures Sale of Ripe Honey; How to Manage so as to Leave it on the Hive Until All is Capped.

BY E. D. TOWNSEND.

To me the great problem confronting the extracted-honey producer to-day is the quality of a great part of the honey that is allowed to go on the market. What would have been beautiful honey if thoroughly ripened on the hive according to nature, before extracting, is often spoiled by ignorance or carelessness, or, worse still, by some unscrupulous bee-keeper who extracts about as fast as the bees store it, in the hope that, by some hook or crook, he can palm off the stuff at the regular market price, thus gaining the price of a few extra pounds he may get by this nefarious practice.

I am not one who thinks there is an over-production of *good* extracted honey; but the great trouble is, the large proportion of unripe or poorly handled honey finds its way to the market, and this has a tendency to keep down the price of the better grades of honey.

If the extracted-honey producers could be made to see how little there is gained in pounds by extracting unripe honey, or, in other words, how little the shrinkage is between thoroughly ripened and unripe honey, there would be very much less of the latter produced. One does not have to keep a colony on the scales very long to see that almost all of the evaporation, or shrinkage, is during the first 24 hours after the nectar is carried into the hive, so not much will be gained in weight of surplus unless the combs are extracted every day—a practice that I never heard of; but there is too much extracting done at about the time the honey is capped along the top of the comb, for a little raw honey is thus mixed with the cured, ruining the flavor and body of the whole lot. One can, therefore, see how easy it is to lower the grade of a whole crop, causing it not only to sell very slowly but to hurt the sale of a good article.

What is the fraternity going to do about it? Educate? Let the bee-journals take up the cry, "A superior grade of extracted honey at a better price;" and by keeping the extra price at the front it will act as a stimulus for the production of a better article. After convincing a man that it is to his advantage to produce a superior article of honey, then the question of the sale of this superior honey comes in; but after producing a good many tons of first-class extracted honey, and selling it at from one to two cents a pound above the market quotations, I have proven that there is no difficulty concerning a market for fancy goods at a fancy price.

I will admit that there are seasons when it is hard, with any system, to produce a

superior quality of honey; but these are exceptions rather than the rule.

If we keep piling on upper stories clear through the season, being careful to give empty combs only as they are needed, and finally leaving the whole bunch on the hive ten days or two weeks after the season closes before extracting we shall not run very much risk. A good many may think they can not afford to have in stock this great lot of extra surplus combs; so, although I *earnestly* advise you to make the investment, I will tell you how to produce a good fair article, and do quite a share of the extracting during the honey-flow, without so many upper stories of combs.

In the first place, supply yourself with 1½ sets of extracting-combs for each colony to be worked for surplus. If they are ten-frame size all the better; but eight-frame will do (I use eight combs in my ten-frame and seven in my eight-frame upper stories); but remember that you can not produce a good article of honey with only one set of extracting-combs to the colony. Put on the upper stories just as usual, as long as they last. If it is plain to see that the honey crop will be short, so that the 1½ sets of combs will hold it all, let them stand on the hive ten days or two weeks, as stated above. If the honey season should continue, and more comb room is needed, go to the colonies that have two upper stories, look them over, and take the first one given them to the extractor. This oldest honey should be nearly all sealed by this time, and the raw thin honey that is being brought from the fields will be nearly all in the partly full story still on the hive. It will be better to extract just enough to give the needed empty combs, for, by so doing, the honey will remain on the hive as long as possible.

While this plan will not always bring the best results, still if there were no lower grade of honey put on the market than that produced by this plan there would not be the cause for complaint that there is to-day.

In conclusion, fellow bee-keepers, if you are among those who, in the past, have produced only an ordinary article of extracted honey, and have had trouble in selling it, you are invited to come over and share the advantages of a superior system. Do not put it off, for you are losing money every year.

Aside from the extra price, one has the satisfaction of knowing he will have pleased customers, so that every pound of this superior article that finds its way on the market will cause a demand for several more pounds.

Remus, Mich., Jan. 28.

[This is good orthodox teaching, but I am sorry to say some of the veterans do not practice it, and then wonder why prices are low, or, what is worse, they can't sell again to the same place.

The tiering-up plan certainly does give a fine grade of honey; and if more bee-keepers would leave their combs on longer they generally would find a good demand and

price for their extracted after their trade has become acquainted with the quality of their honey.—ED.]

THE DANZENBAKER HIVE VS. THE CONTRACTED BROOD-CHAMBER.

Explanation of the Article on Page 26, for the Benefit of Dr. C. C. Miller.

BY W. A. STEWART.

That sub-caption, "Should the brood-nest be crowded with brood?" which the editor placed over my article on the Danzenbaker hive, page 26, looked a little startling. I was afraid a hasty reading and that heading might lead your readers to misunderstand the article itself; but when I read Dr. Miller's comments, page 64, it almost took my breath away.

Say, doctor, did you suppose I was afraid of getting too much brood in the combs? We all know that GLEANINGS is a lively journal; but it is 32 years old, and we don't expect such antics as this—same old story. Write briefly to get space, then write again and explain the first letter so the experts can understand it. Seriously speaking, the problem with bee-keepers is how to get the honey and pollen placed where we want them, and enough room left for all the brood we can possibly secure. This is so well known that one would not think it necessary to repeat it in every paragraph just to keep from being misunderstood. I argued, not for less brood, to make room for pollen, but for a full set of frames to make room for both, because we now have a hive that works automatically, securing the different kinds of its contents in their right places.

The question is, "Does the contracted brood-nest, as described by Mr. Doolittle and others, furnish room enough for all the eggs a good queen can lay, all the pollen that the bees will gather where good pollen-yielding plants are plentiful, and a little honey to be handy for the young bees?" I think not. If I rightly understand Dr. Miller on page 967, October 15, he also thinks not; and I do not know that any one claims as much as that for it. On the other hand, if we use a wide shallow hive with ten 7½-inch frames, the brood-nest is depressed to the right extent out of its spherical form, and the honey goes into the sections, because the natural place for it is near to and especially above the brood. The pollen goes into the frames because the natural place for it is still closer beside the brood; and with the pollen is a small quantity of honey which, during the early summer, is mostly unsealed, showing that it is being constantly used and renewed for the benefit of the larvae.

The brood-nest, after reaching the bottom and top bars, is extended laterally until it includes a considerable part of the outside combs, because the bees will make room for it there, even if they have to uncap sealed honey to do so.

The plan of contracting the brood-chamber has stood the test of experience for a long time; but it has not always been satisfactory—see page 33, 1904. Here is a newer method, which it seems to me is at least worthy of a general trial.

Elkin, Pa., Jan. 28.

[We have since enlarged our journal so that it will not be so necessary to be brief as formerly. Regarding size of brood-nest, Mr. Doolittle has an article on that very subject in this issue.—ED.]

FASTENING COMBS IN FRAMES.

Sticks and Bent Wires vs. Common White String.

BY G. C. GREINER.

During all these years, especially during the first three or four of my bee-keeping, I have tried various different ways of fastening combs in frames, and have settled on what I consider the most practical method I am acquainted with.

I have two different methods, one for fastening whole combs or large pieces, as in transferring; and the other to patch up, like fastening a narrow strip at the bottom between comb and bottom-bar, where the bees failed to make the connection. To do the former I use little sticks about $\frac{3}{8} \times \frac{1}{4}$ in., as long as the frame is deep, with $\frac{3}{8}$ projection above and below. They are fastened in pairs with little pieces of stovepipe wire, bent something like the reversed letter S after the hook is bent. It takes about three inches of wire to make these hooks, which should be shaped over a form to make them

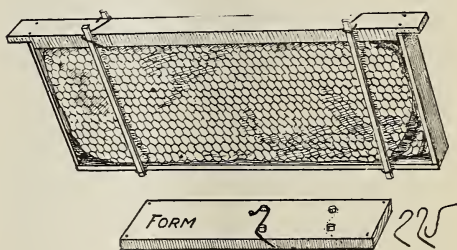


Fig. 1.

all alike. A little bench, made of a common board as wide as the frame is deep, is a great convenience to help do this work rapidly. When the comb is fitted into the frame, which is done by laying the frame on the comb and cutting around inside the frame, one of the little sticks is slipped under the comb wherever the support is needed; another is laid right over it, and with two hooks the projecting ends are clasped together. It generally takes two pairs of sticks if one large piece is to be fastened; if more smaller ones, three or even four pairs may be needed.

For patching up, little forks of tempered fence wire are slipped over the frame; they

not only hold inserted patches in their places, but also hold the comb in the center of the frame. This is a very desirable and important feature of the movable frame. If the combs are all true and centered, all manipulations that require taking out or inserting combs are a pleasure. Any bulging out on one side or the other is liable to rub against the next comb, or, what is still worse, against the bees that may be in the way; and the consequence is generally an infuriated lot of bees to attack the operator.

The illustrations make it all plain. Fig. 1 represents a large piece of comb fastened in its place with two pairs of sticks. One of the hooks is shown as it appears when

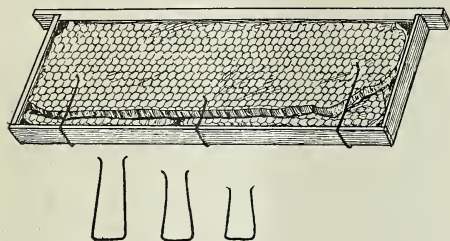


Fig. 2.

finished, and the other is left as it leaves the form. It also shows the form as seen from above. This is simply a hard-wood block with three corresponding iron pins driven into it. In cutting the wires I use a pair of tinners' shears, and cut eight or ten rings at a time; and if the pins in the form stand plumb and true, three or four or even more hooks can be bent at once.

Fig. 2 shows a patched comb, the opening between comb and bottom-bar being filled out, and a piece of drone comb in the corner taken out and replaced with worker comb. Properly shaped forks or clasps are below the comb.

With a supply of these little traps on hand, transferring as well as patching up can be rapidly done. To remove them, after the bees have done the mending and fastened every thing to suit their own notion, is also a short job. When taking off the sticks a little caution is advisable to prevent possible loss of queens. The best way to do this is to hold the frame with the left hand by one corner near the ground in front of the hive, then remove the hooks by unbending the long prong, and with a rolling motion loosen the sticks and drop them carefully on the ground. When the colonies are very populous, as they generally are when such operations are performed, the combs are thickly covered with bees, and it is a common occurrence that little lumps of bees drop from the combs or adhere to the sticks; and, as the queen is liable to be among them, dropping near the entrance in front of her hive enables her to find her way into it.

La Salle, N. Y.

[We used to recommend practically both of these methods; but after winding com-

mon white string one or more times around a comb according to the number of pieces we concluded it was cheaper and better, with the additional advantage that, if we forget to remove the string after the combs were welded together, the bees would do it for us. Our transferring-clasps, instead of being made of wire were narrow strips of tin bent in the same U shape. The wire would cover up less of the comb surface, and, perhaps, would be better.—ED.]

MICE IN THE APIARY.

How to Destroy Them Easily.

BY W. L. PORTER.

In the thirty years that I have been in the bee business mice have been a great nuisance, besides causing a good deal of destruction; and in all this time I have never been able to find a remedy that was just satisfactory until about two years ago. I have tried bee-tight houses, and poisons of different kinds, and even the faithful old cat. They all had their merits in checking the nuisance, but still I was always suffering more or less with their destructiveness. I have made several bee and mouse tight buildings, and would, though not knowing it, carry the mice in hives where the bees had died out. After they get into the building they will gnaw out, and ever afterward have a free passage in and out. When the next summer came I usually found both combs and supers much damaged. I have tried to poison them by putting strychnine in meal; and while it would kill some it never completely routed them. I have also soaked wheat in strychnine, with the same failure.

Two years ago I hit upon a formula that was effectual. It has been worth so much to me I feel that some of the readers of GLEANINGS may have had the same trouble, and would like to know how to get rid of the nuisance. I have been preparing a batch of poison to-day. The formula is, take $\frac{1}{2}$ gallon of wheat. To this I add $\frac{1}{2}$ ounce of strychnine, 2 pints of water, and a pint of honey. I first pound the crystals of strychnine on a flatiron, then put it in the water and bring to a boil; then add the honey. Pour the solution over the wheat and stir well. Boil the mixture for 30 minutes. To this I add two large tablespoonfuls of flour made into a paste before putting it into the wheat. I put in the paste so the wheat will adhere. I then put the mass in pans, smoothed out so it will be about half an inch thick. When it dries it will be in a hard cake. The honey and paste make it so the mice are very fond of it.

I find by keeping a piece of this poison in the store buildings which I have at my apiaries I can keep combs and sections without being disturbed, and a piece of the poison in an empty hive will do away with those that might disturb the hives in cold weather.

We have a species of wild mice in Colorado which are very peculiar in their habits.

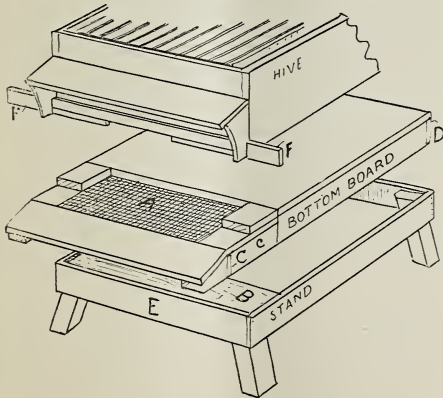
They garner the same as the squirrel. Several times I found as much as a gallon of sweet-clover seed, with all the hulls taken off, stored in an empty hive. I have found a number of cases where the same mother had two broods in the same nest, one fairly matured, and the other very young. If the poison is used judiciously there is no more trouble from mice. Of course, great care should be taken to keep it away from children and also domestic animals. It is also very effective in the home where mice are troublesome. Last September we found our house fairly overrun; and in a week after putting out the poison, the mice were all gone, and we have not heard one since.

Denver, Colo.

ANOTHER VENTILATED BOTTOM-BOARD.

BY J. GRAY.

I note a discussion in your journal regarding a simple and inexpensive method of giving ventilation. I have the simplest method—nothing to get fast. You are aware that our English hives have sunken entrances. If the board A which forms the sunken entrance be removed and let into the stand at B, when you put the floor on the stand it closes the opening; wire cloth put in place of A; the board that goes across back of floor D put in front C, to give ventilation; push your hive forward on the stand (if you want it permanent, turn your stand around back to front); to close the ventilator, pull your hive back till E touches C.



I can not say whether you can adapt this to your American hives, but it answers with me. I get a 14×4½ opening, and you make it 8 inches if you wish. I am wintering one stock with ventilator open, believing it will have the effect of not tempting the bees out when the sun shines too warm on the door of the hive.

Long Eaton, Eng., Aug. 2.

[The objection to wire cloth in the floor, as pointed out in a late issue, is it becomes covered up with dirt, propolis, and in very

early spring, with dead bees. The Hersher plan of wire cloth on the sides, I think would be better; for by his plan the extra ventilation can be very nicely cut off at will.—ED.]

THE QUEEN-TRAP.

Other Methods of Hiving Swarms; Why the Trap is a Labor-saver.

BY C. H. DIBBERN.

Not many bee-keepers think they have much use for a device to trap drones; and yet when rightly used it becomes a matter of very great importance. Nothing is more important in achieving success with bees than the quality and the progeny of all the queens. It is easy enough to send to some queen-breeder for a queen or two, and introduce them, and thus secure nice industrious bees; but to improve thus a whole apiary of a hundred hives or more becomes an entirely different proposition. Now is just when the trap can be used to great advantage. Often one has a few colonies of as good bees for honey-gathering, right in the apiary, as can be found anywhere. Now select one or two such, and insert a frame or two of drone comb right in the middle of the hive; clip the queen's wings and encourage these to produce all the drones necessary for the whole apiary. No traps are to be used on these hives, but the other drones are to be vigorously trapped and destroyed. This will greatly improve the young queens and their progeny in the whole apiary; and if this plan is continued for a few seasons you will no longer think that the traps interfere with the honey-gathering.

Clipping queens' wings has become quite popular of late years, and is practiced by some of our best bee-keepers. While this method partly answers the purpose, the labor of hunting for a queen, and the uncertainty that she is still there the next time the hive is visited, is not to be compared to the certainty of the traps. Then when a second swarm comes out, how about its alighting on some tall tree or leaving for the woods? In an out-apiary this becomes a serious question. Of course, some bee-keepers seem to be able to look over all the combs in a large apiary in a few hours, and make all safe for a whole week ahead. When I tried this years ago I found it an awful job, especially when the days were hot and my time was limited. Then, too, there is no control over the drones, which ought not to be overlooked. I believe that now the plan of the queen-wing clippers is to make their increase by the shaking or brushing process. This, of course, is all right when rightly done at the proper time; but how many, especially amateurs or farmers, would do this right? And, besides, is not this too a lot of useless extra work? I have studied and practiced all the known (and unknown) methods of controlling swarming in my home apiary of 100 to 150

colonies, and at an out-apiary for over 15 years, and have found nothing equal to the queen-trap. I consider the trap described in GLEANINGS for Aug. 15, 1904, a great improvement.

In answer to numerous correspondents I will say that I will make up a limited number for sale. It is probable that the Root Co. will manufacture them. There are no patents; but it is best to get at least a patent.

C. H. DIBBERN.

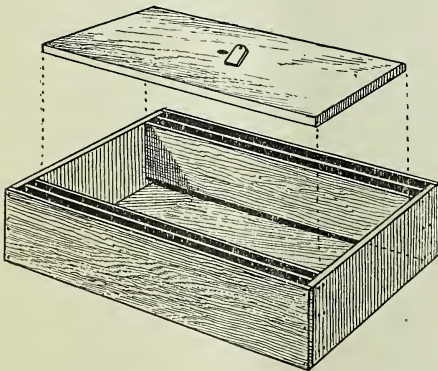
Milan, Ill., Jan. 11.

[It has been our practice to use both the clipped-wing plan and the drone-trap. When convenient to do so early in the season, when a colony is not strong we clip. If for any reason there was no clipping, and we are just on the eve of the swarming season, when the colonies are overflowing with bees, making it difficult and tedious to find queens, we clap on the drone-traps. Unless it is to repress undesirable drones we prefer to clip when we can.—ED.]

A HOME-MADE OUTDOOR FEEDER.

BY S. G. KILGORE.

I send you a sketch of an outdoor feeder of my own design that I use for stimulative feeding. It combines some of the principles of the Miller, Simplicity, and Manum feeders. To make, take a common 12-lb. shipping-case; knock off the two glass sides and replace with a piece $\frac{3}{8}$ inch thick, same size as sides. Then cut four pieces the same



thickness, and place two on each side on the inside so there will be two spaces for the feed to come up in, each $\frac{1}{2}$ inch wide. In putting these boards in they should be $\frac{1}{4}$ inch from the bottom of the box. Run melted paraffine around on the inside of the box to stop any leaks, and to keep syrup from soaking into the wood; and, lastly, put on a cover with a small hole in the top with a button to cover it, and our feeder is complete. No bees can drown in this feeder, and it holds much more than the Simplicity. When it needs refilling push the button back; put in the funnel, and fill. I feed up till clover blooms, and never have robbing.

For larger feeder I use a 24-lb. case with three troughs for feed.

CLEATS FOR HAND-HOLES IN SUPERS.

I like the Dovetailed hive; but why don't you put molding hand-hole cleats on supers as well as on the brood-nest? There is *more* heavy lifting in handling supers full of comb honey than hive-bodies; and I think they would be appreciated by a large majority of your customers.

FULL SHEETS FOR THE TWO INSIDE FRAMES AT LEAST.

The Hoffman frames are all right; but I find with me when I use only a starter or small strip of foundation the bees almost always bulge the combs. I think it is just as they get started on the first comb. If the first comb is built crooked they will build the rest the same. Therefore I think that any bee-keeper who can't afford full sheets in all the frames should use, say, full sheets in the two center frames, and narrow strips in the rest, which would give one a set of straight combs.

COMBS BUILT IN SPACE BEHIND DIVISION-BOARD.

I had trouble last season with my bees building comb in the space behind the division-board. If I contract for comb honey, some colonies will fill this space full before going into the supers. What is the cause of and remedy for this?

London, O., Feb. 1.

[The feeder described and shown is virtually Dr. Miller's feeder adapted for use outdoors. This was described in this journal some ten or twelve years ago. But the fact that it is old in design or construction does not, of course, signify that it does not have real merit, but, rather, quite the contrary, for this same feeder has continued clear on since that time, and has been advertised in some of the supply catalogs.

We do not supply cleats for hand-holes in supers, for two reasons. First, supers are lighter in the height of the honey-flow than a brood-nest of double the capacity; second, many of the supers are put under a cap or outer case; and if hand-hole cleats were used they would interfere with this cap.

If you do not fill up the back space of the division-board with extra dummies, the bees will, in all probability, if contraction is carried too far, fill such spaces with comb instead of going up into the supers. But contraction should not be carried much further, as a rule, than the thickness of one two-inch division-board in an eight-frame hive. It is wrong in theory and practice to leave any vacant space thicker than a bee-space in the brood-nest in which the bees can store comb. Generally speaking, an eight-frame hive should not be contracted at all. The colonies that do much in the production of comb honey ought to be strong enough to fill out the entire hive without dummies. Excessive contraction has long since been proven to be a mistake.—ED.]

A CLERGYMAN AND HIS BEES.

BY CLERICUS.

[The following article was written by a clergyman who, as will be seen, is an enthusiast on bees. Knowing that he had derived real enjoyment and profit out of his pets, we asked him to prepare a short article which we could put in pamphlet form for distribution among professional men who are seeking some outdoor hobby to ride that will, between times, rest the tired brain, and give a new lease of life. As we have many of this class of people among our subscribers we finally concluded to give it a place in these columns. Even to the veteran bee-keepers the reading of it will bring back pleasant memories of olden days when they had just begun their studies among the A B C's—particularly the B's.]

"A clergyman and his bees!" What a combination! and yet how perfectly natural! for who would be better able to appreciate the phenomena of bee life than one whose life has accustomed itself to observation?

And then the diversion which their study gives to one of sedentary habits can not but be of great value physically for the many hours spent in the fresh air and sunshine in becoming acquainted with and studying the habits of these little geometers of the fields.

So great a man as Shakespeare boasted of an acquaintance with these little folk, and wrote concerning them the following lines:

So work the honey-bees—
Creatures that, by a rule in nature, teach
The art of order to a peopled kingdom.
They have a king and officers of sorts
Where some, like magistrates, correct at home;
Others, like merchants, venture trade abroad;
Others, like soldiers, armed in their stings,
Stake boot upon the summer's velvet buds;
Which pillage they with merry march bring home
To the tent royal of their emperor;
Who, busied in his majesty, surveys
The singing masons building roof of gold,
The civil citizens kneading up the honey,
The poor mechanic porters crowding in
Their heavy burdens at his narrow gate,
The sad-eyed justice with his surly hum
Delivering o'er to executioners, pale
The lazy yawning drone.

And one can almost see the Bard of Stratford some sunny morning watching the busy bees before he wrote his vivid description in which he falls into only one error, that of supposing the mother queen-bee to be a king.

Jean Ingelow must have seen a busy bee working among the hollyhocks and asters or else she could never have written—

O velvet bee! you're a dusty fellow.
You've powdered your legs with gold.

So that it is no time wasted to spend an hour among these little people who for centuries have been the benefactors of mankind.

On the ancient monuments of Egypt, in the classic writings of Rome and Greece, and in the holy Scriptures, we find many references to the honey-bee.

That the busy bee was noticed by mankind in the dim distant past is not surprising, for the ancients possessed no cane sugar. The only sweetening property they had was honey.

In those by-gone ages the busy bees were kept simply for what they produced, as the

ancients knew nothing concerning the marvellous life-history of these little insects.

But to the writer there is in them an interest far above material gain when their wonderful life-story is told. In that little white box before me is a teeming population of from twenty to forty thousand inhabitants, over which presides a queen, but one of which is in the hive at a time.

At the entrance of their house are sentinels, relieved at stated times, whose duty it is to watch for enemies and thus protect their golden stores.

Every thing within that house moves with clock-like precision. Some are gathering water, others propolis, others pollen, but the larger number honey.

The main population is made up of worker bees, which are imperfectly developed females, and whose average life during the working season is about five weeks.

In the spring a large number of drone (or male) bees are reared, their sole purpose in life being for fertilizing the young queens; and as they are simply consumers, the workers drive them from their hives in the fall and thus they perish.



Bees are not naturally vindictive, but can be handled without veil or gloves if we avoid irritating them.

The queen, much larger and longer than the workers, lives for several years, and is the only perfectly developed female in the hive; and, being the mother, she lays all the eggs, laying as many as 4000 in 24 hours. The eggs are deposited in cells, and in 21 days hatch into fully matured worker bees.

These and many other marvelous facts concerning the busy fellows give to them an interest above their powers of producing sweets. The movable-frame hive, the invention of a clergyman, the late Rev. Lorenzo L. Langstroth, made it possible for us to study the life-history of the bee.

The benefits a clergyman derives from the possession of a few hives of bees, apart

from the beautiful stores of honey, are many. First, there is the outdoor exercise derived from studying them, which is a complete relaxation from one's regular work. Then there is the intense pleasure and fascination from seeing the marvelous intelligence they display in all their operations. Some one has said that infidelity falls in the presence of the bee-hive, so wonderfully do these little folks reveal the Creator's hand.

Then from them are learned many lessons of industry, usefulness, and devotion to life-work from which many illustrations for the pulpit can be drawn.

To the writer it has been a glorious treat to leave the study when headache and fatigue were coming on from prolonged men-



Veil, gloves, and smoker protect one fully from being stung. After a little experience the veil and gloves are usually discarded.

tal effort, to step outdoors and lie down beside a busy hive on a June morning and listen to their merry hum.

The green grass, the sweet-scented clover, and the soothing sunshine have in a few minutes enabled him to return to his work with a heart filled with gratitude to the "Giver of every good and perfect gift."

From a mistaken notion that bees are vindictive many have been kept from a more intimate acquaintance with these little people. If one will keep a gentle race of bees like the Italians, and will not irritate them by making quick motions or jarring their hives, he need not fear them. If, however, one is of a nervous disposition, he can, by use of a bee-veil and a pair of bee-gloves, so protect himself that the bees can not possibly sting him, even if he should irritate them unconsciously.

The writer bought a swarm of bees in an old-fashioned hive, as shown in illustration, but soon purchased an up-to-date hive, and when the swarm came out it was placed in that. The following spring an Italian queen was purchased, and received by mail; and in a few weeks all of the common bees had died, and the colony was a big bunch of beautiful golden bees as good-natured as could be, as shown by the fact that, during the season, the writer was not stung once.

An occasional sting, however, is not to be dreaded; for if one suffers from rheumatism the frequent sting of the bee is often a cure.

The theory of homeopathy is, "*Similia similibus curantur*" (like cures like); and as rheumatism is caused by an excess of uric acid in the blood, the curative properties of the sting are in the formic acid which the bee injects into the system. It is homeopathic remedy administered in an allopathic way.

However, the fact is well known that, as a class, those who keep bees are free from rheumatic pains. But should one be fearful



Swarm of bees in an old-fashioned hive.

of the slight pain of an occasional sting, the veil and gloves will absolutely protect from them.

In handling bees a little smoke is puffed into the entrance of the hive, which so subdues them as to make the handling of them very safe and easy.

The little instrument we use is called a smoker, and is made of tin with a bellows attached, and a small fire kept in it of burning rags or planer shavings.

A few months ago the writer, at the close of the season, took from the one hive 106 lbs. of comb honey in little boxes or sections each containing a pound, and felt repaid for the little time required of him.

Honey is a predigested food, and should



Bees in a city yard.

occupy a larger place on our tables than it does, for, without doubt, it contains elements that conduce to longevity, and in its assimilation does not tax the kidneys as does cane sugar that has not been predigested. In Germany the old people are very fond of "honey tea," made by dissolving two teaspoonfuls of honey in a mug of hot water, which becomes colored, sweetened, and flavored by the honey; and to its constant use many of them attribute their hale and hearty old age. When once tried it will often be repeated.

When Julius Cæsar, dining with Pollio Rumilius on his hundredth birthday, inquired of him how he had preserved both vigor of body and mind, Pollio replied, "Interius, melle; exterius, oleo" (internally, by honey; externally, by oil), showing that at that distant day the food value of honey was appreciated.

Bees can be kept not only in the country but in the city as well; and on the roof of many a city dwelling bees are a source of pleasure and of profit.

It is not the purpose of this brief paper to induce the clergy to go into the business of bee-keeping, although it is possible with twenty or thirty hives, requiring but a little time during the summer to derive from them a large revenue; but, rather, it would lead the clergy to secure a few hives of bees for the recreation and pleasure their study and handling will give.

Of course, the writer indulges in pardonable pride when, upon his table, there is constantly at every meal a luscious comb of golden honey, the product of his busy bees. The early spring is the best time in which to secure bees from a distance, as they can be shipped better than later on, though perhaps the best way would be to buy some empty hives, and pay some nearby bee-keeper \$1.50 or \$2.00 for each swarm he will put into your hives.

If the swarms are common black bees, the purchase of an Italian queen for \$1.00 will soon fill the hive with thoroughbreds.

The outfit necessary for a beginner is very simple and inexpensive, and consists of one hive complete with supers, pair of bee-gloves, smoker, veil, and

a copy of ABC of Bee Culture. If one preferred to buy the Italian bees, queen and all, then a complete colony would cost \$9.00; but a three-frame nucleus and queen could be purchased for \$5.00.

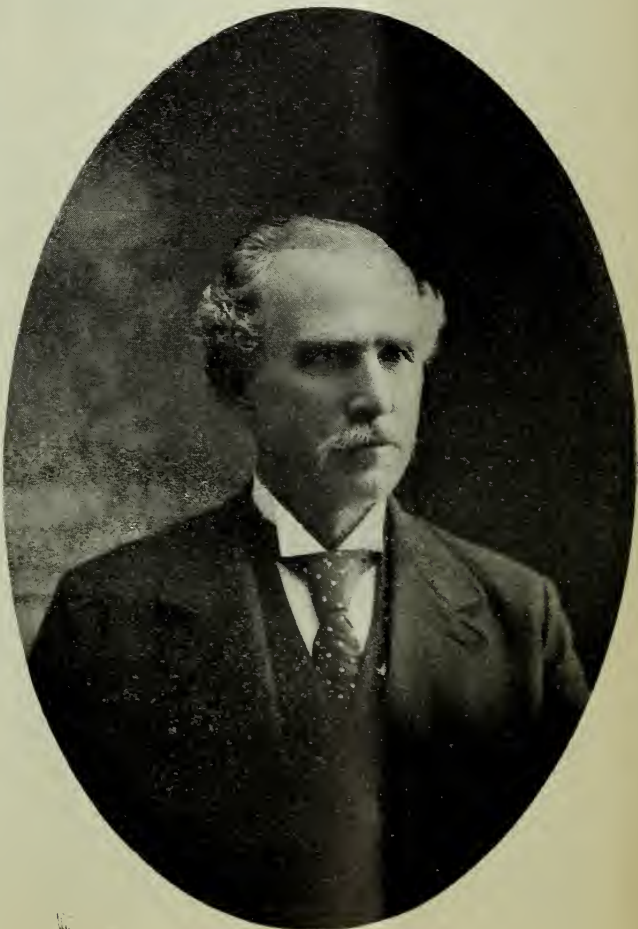
But above all things get some bees; and if, after having studied them and worked among them, and having secured from them many pounds of honey you are not willing to vote that the happiest combination is "A clergyman and his bees," then the writer will have toiled in vain.

E. W. ALEXANDER.

Something About the Man Who has for Years
Run 500 Colonies in One Yard; the Re-
wards of Perseverance.

BY E. R. ROOT.

Some three different times I came very near calling on Mr. E. W. Alexander, of Delanson, N. Y.; but each time something



E. W. ALEXANDER.

switched me off, so that I missed seeing one of the brightest, most intelligent, and most extensive bee-keepers that this country affords. As early as 1890 I was in the vicinity, on my first bicycle tour; but as I was already late in my schedule of appointments I hurried on to some bee-keepers at whose places I had promised to stop. I was, later, roundly scored by some of the local bee-keepers for not visiting the man of whom they all seemed to be so proud. In the mean time I had forgotten all about our friend (for he is not one to push himself forward) until an article of his appeared in the *Bee-keepers' Review* about a year ago. Remembering my visit in his vicinity I began a correspondence, with the result that I became acquainted with a bee-keeper whom it is a real pleasure to know.

Mr. E. W. Alexander has kept bees for 50 consecutive years, beginning at the business when he was only ten years old, for he is now a little past 60. At that time his father had quite a large apiary, and the then ten-year-old bee-keeper took the whole charge of it. For over 40 years, he says, he has read every thing he could hear of connected with bee-keeping. In his early experience he destroyed many good colonies in order that he might learn something; and now he is willing to sacrifice, if necessary, a whole harvest in order that he may more thoroughly understand this subject of overstocking; for be it known that Mr. Alexander has been for years keeping 500 colonies in one apiary. In spite of this large number in one yard he has made a grand success of the business—so much so that, when his three sons grew up, he helped them in business, and, besides, has a good bank account left. All this was done with the bees without a dollar of help from any one.

He attributes his success to perseverance and to a practical working knowledge of the business. While he has had severe losses at times he has never for one moment, like many other bee-keepers, thought of giving up. For example, one fall his bees gathered some honey-dew that caused the loss of about 500 of his colonies. At another, black brood destroyed over 1000 colonies for him. Still again, his home burned with nearly all his bees, with only a light insurance. Did he give up and become discouraged? Not he. Like another bee-keeper of old, Mr. Adam Grim, who established a bank with the money he made from his bees, when asked what he would do if he were to lose all his bees, he said, with a Grim determination, "I would buy more and start over." That is the kind of stuff that makes success in bee-keeping or any calling. Many of our bee-keepers have become discouraged, given up, and have gone into some other business of which they had but little knowledge. Of course, they lose in that too, and all their lives they are working at a disadvantage.

On the general subject of temperance and tobacco, Mr. Alexander has been heart and hand with A. I. Root in his Home talks. There is quite a coterie of bee-keepers in

that section who are of the same general stripe. Would there were more of them in the world!

Mr. Alexander writes that his bees have been wintering nicely, and he expects to increase them to 1000 colonies. This entire number he expects to keep in one yard at home. When he says he would be willing to "sacrifice a whole harvest" for the sake of learning something, we shall watch his experiments. But from what I know of the locality it is exceptionally a good one. If there is any place in the United States that will support 500 or 1000 colonies of bees it is this section where basswood, clover, and buckwheat thrive in all their glory. Take away the buckwheat, and our friend might have to split up his one big yard into several small ones situated several miles apart; for buckwheat in this part of York State is at its best, and a tremendous yielder of honey.

The portrait shows the face of one who might be a college professor or a bank president. Indeed, a really successful bee-keeper would grace almost any calling in life.

The following article explains one of the secrets of Mr. Alexander's success—watching for the leaks, a waste of brood that naturally occurs from certain faulty methods of manipulation. And right here it is proper to suggest that Mr. Sibbald's method of controlling swarming, as described in our last issue, may be defective in this one respect—that there will be a lot of young brood lost each time the old colony gives a fresh infusion of field bees to the hive on the old stand.

It is possible that Mr. Alexander has a far better method of controlling swarms. The two methods are now before our readers, and we should be glad to have them test them the coming season. Here is the article:

HOW SHALL WE MAKE OUR INCREASE?

Also How to Control Swarming at the Same Time.

BY E. W. ALEXANDER.

This subject has received perhaps as much thought and study as any other one thing connected with bee-keeping, and I will try to show that, with proper management, you can have two colonies, each nearly equal to what the mother colony would have been, for the clover harvest, if not divided, and fully equal for a later harvest.

In calling your attention to this matter I take it for granted that you keep bees (like myself) for the purpose of making the most money out of them that you can, regardless of increase or the number of colonies you may have. Simply make what increase will add to your present season's crop of honey. In the first place, let me impress upon your mind the importance of doing every thing in your power, not only to build up all your

colonies as strong in bees as you can after taking them from their winter quarters, but to keep them in that condition to the end of the season; for without strong colonies we can not expect much surplus. As the day is now past when natural swarming is desired by any progressive bee-keepers, we will turn our attention to some practical way of making artificial increase.

The most common way of doing this is either forming nuclei and afterward building them up into strong colonies, or dividing a strong colony at once by putting a greater part of the bees with their queen into an empty hive on the old stand, and setting the old hive containing the brood away some distance in a new place. Each of these methods has some serious faults. The nucleus method usually requires so much time that frequently the best part of the harvest is past before they are in a condition to take advantage of it. They also require much work and attention; and the other way of dividing the strong colony is all wrong in every respect. I think I hear some of you say, "Yes, but that is about the same as natural swarming, only the old hive is set on a new stand." I will admit it is something the same, though not half so good; for in natural swarming, the old hive on its old stand *retains* a part of its working force, and matures *all* its brood; whereas, if divided, as is frequently done after its queen and most of its working force are left on the old stand, and it finds itself in a new place without its queen, the greater part of the bees that have ever been out to fly will return to the old stand and join the swarm, leaving the old hive with all its brood in a deserted condition. Then the few remaining bees will destroy every egg and nearly all the uncapped larvæ. Here you lose enough brood, many times, to make nearly a swarm.

After studying on this subject for many years, and trying every thing I could think of to prevent this loss of brood in making our increase, and at the same time avoid the loss of valuable time in fussing with nuclei, and at all times keeping every colony in good condition to take advantage of any unexpected harvest that might come, I hit on what I consider the most practical way of making increase of any thing I have ever tried or heard of. It is this:

Go to the colony you wish to divide; lift it from its stand, and put in its place a hive containing frames of comb or foundation the same as you would put the swarm in, providing it had just swarmed. Now remove the center comb from your empty hive and put in its place a frame of brood, either from the hive you wish to divide or some other colony that can spare one, and be sure you find the queen and put her on this frame of brood in the new hive. Now put a queen-excluding honey-board on top of this new hive that contains the queen and frame of brood with their empty combs; then set your full queenless colony on top of the excluder; put the empty comb or frame of foundation wherever you got your frame of

brood, and close up the hives except the entrance. Now leave them about ten or eleven days in this shape, during which time the queen will get a fine lot of brood started in the lower hive, and every egg and particle of larva that was in the old hive on top will have matured so it will be capped over and *saved*; then separate them, putting the old hive on a new stand. It will then be full of mostly young bees and capped brood, and in about 24 hours they will accept a ripe cell, a virgin, or a laying queen, as they will realize that they are hopelessly queenless. I would advise you to give them a laying queen, as I never like to keep my full colonies a day longer without a queen than I can help. In this way you have two strong colonies from one, as you have not lost a *particle* of brood or checked the laying of your queen; and with me it almost wholly prevents swarming. This is the way we have made our increase for several years, and we like it much better than anything else we have ever tried. In doing so you keep all your colonies strong during the whole summer, and it is the strong colonies that count in giving us our surplus. The mere fact of having a large number of colonies does not amount to much unless they are strong in bees and *well* cared for at all times. This is a fact that many have sadly overlooked; and when the season comes to a close, giving them a small surplus, they feel disappointed, and lay the fault on many things that have had but little to do with their failure.

In making your increase in the above way your new swarm on the old stand is in fine shape for a clump of sections, as it has a large working force backed up by having its hive nearly full of brood and but little honey, as the bees have been in the habit of storing their honey in the old hive that was on top, so they will soon go to work in the sections and have no notion of swarming. Then the old hive that has been set away can usually spare 15 or 20 pounds of honey, which can be taken with the extractor, giving its new queen plenty of room to lay, and in a short time will be one of your best colonies, and also have no desire to swarm. Now, if you have done your duty by your bees since taking them from their winter quarters you can have two good strong colonies in the place of one, ready to commence work on your clover harvest, which here commences about June 15.

From an extensive experience along this line I find I can get nearly twice the amount of surplus by dividing as above stated over what I was able to acquire either by letting them go undivided or dividing in a way that caused the loss of a greater part of their brood. This losing of brood we must guard against at all times, if we expect to secure a fine surplus. It costs both time and honey to produce it, and it is the principal factor in obtaining those strong colonies that gives us tons of honey.

Far too many bee-keepers think that the value of their apiary consists in the number of colonies they keep. This is so only to a

certain extent; for if you had 1000 colonies, and they were all weak in bees, so they would give you no surplus, they would not be worth as much as one good strong colony that would give you two or three hundred pounds of honey.

Several years ago one of my sons bought nine colonies of bees in common box hives about the 1st of June. He brought them home and transferred them at once to movable-frame hives, and in about three weeks divided them, making 20 colonies of the 9 he bought, using some queen-cells I had on hand for his surplus colonies. He then attended to those 20 colonies so they were all strong at the commencement of our buckwheat harvest. I then lent him 20 hives of empty combs to put on top of his colonies to extract from. He took 2849 pounds of extracted honey from those 9 colonies and their increase, and left them in good condition, so every one came out the next spring in fine order. Another son, the same season took one colony, divided into three, and received 347 pounds extracted honey. They also came through the following winter in good condition.

I speak of these cases simply to show that it is not necessary to keep hundreds of colonies in order to get a little honey. If you will only keep strong colonies, and give them the best of care, you will soon find both pleasure and profit in bee-keeping.

Delanson, N. Y.



HATCHING CHICKENS OVER BEES; HOT-BEDS.

"Good morning, Mr. Doolittle. Nice sunshiny morning this!"

"Yes. We have had a remarkable March. Not a windy one as we usually have; nearly all clear sky, and very little storm; but the first twenty days were very cold, while the rest of the days were unusually warm, the mercury going to 85 on the 29th."

"That is about as I remember it at our place. Did you set out any of your bees from the cellar?"

"Yes, about one-third of them; and yesterday, the 31st of March, they were bringing in pollen. But I think the rest will be as well off in the cellars for a week or two yet, as it is evident we are to have it cold for a week or two yet, the way that cold north wind is blowing this first day of April."

"But will not the bees that are left in become uneasy from the cellar's warming up too much from those extremely warm days for March?"

"The cellar has not warmed up any yet, nor will it before May. It was only 45 when

we were setting the bees out; and as they scarcely spotted white clothes that were spread out near the hives on their first flight, I am sure they will be better off in the cellar till this cold spell has passed by."

"Will you set them back in the cellar again if it continues cold?"

"No, I think not. The two that were looked into had very little brood, so there will be no brood to chill; and as they have plenty of honey I do not think it would pay to put them in and then carry them out again later on."

"Well, I do not know that it will; but if it came cold, and stayed so long, it would seem better to have them back in the cellar again. But that was not what I came over to see you about. Did you ever try hatching chickens over a colony of bees?"

"No."

"But have you not seen what is being said in the matter in GLEANINGS of late?"

"Yes, and have been tempted to write something in the matter, but did not get to it."

"But—excuse me—if you have never tried the matter how should you be able to write any thing understandingly on the subject?"

"Well, just by having a knowledge that tells me the thing can't be done."

"How can you have such knowledge when you have never tried the matter?"

"On the same principle that you know that a new-born babe can not live without air to breathe."

"How is that?"

"From many experiments during the past, I know that the temperature *inside* the brood-nest of a colony of bees ranges between 92° and 98°, never being allowed to go higher than the last-named figures; and the temperature over any brood-nest, or even close up to the bees enclosing the brood, can not be as high as that inside, unless the temperature out in the open air rises above 98°, which is something it never does in this locality, at a time of the year when it would be an advantage to raise chickens."

"That you make plain; but it is not plain to me that you are right in your assertion that 'the thing can not be done,' when you have not tried it."

"But you did not wait long enough for me to make the whole plain."

"Well, I'll wait. Go ahead!"

"Those who have tested the matter regarding the temperature at which eggs are kept under a sitting hen know that the same is from 101 to 104 degrees, so that the 'incubator man' keeps the temperature inside his incubator as near 102 to 103 as possible, knowing that either a greater or a less degree gives him weaklings for chickens; and if as low a temperature as 98 is allowed for any great length of time, an entire failure is the result. Now, knowing this, it is just as certain, without even a single trial, that not one single egg will ever bring forth a chicken over a colony of bees, as it is certain that a new-born babe can not live with all air excluded from it. Yea, more; if

those eggs could be placed right down in the center of the brood-nest, a place where the temperature is the warmest possible to obtain from a colony, not one of them would ever hatch, as even this, the very warmest place, would still lack from three to six degrees of the heat the 'old hen' would give them, and four degrees of the lowest heat the incubator is to be kept at. Therefore, all these stories about hatching eggs over a colony of bees can not otherwise be any thing but fallacious. Have I made it plain to you now?

"If you have stated facts, then I must concede that you are right."

"But there is one thing that this heat of the bees has been very satisfactory with me in doing, outside of their rearing their own brood and keeping themselves warm; and that is, furnishing heat for a small hot-bed."

"A hot-bed! Does not that require more heat than to hatch eggs?"

"No, nor nearly so much."

"How is that?"

"Peter Henderson, who is good authority along all vegetable lines, gives as the best temperature at which the seed of lettuce, beet, radish, onion, etc., germinate, to be 60°, and such as tomato, melon, cucumber, etc., those requiring the greatest amount of heat, as 80; and as a temperature of 85 can be easily obtained from the heat coming from a colony of bees, in connection with the heat from the sun, there is no trouble in having a very even heat, and that of about the right degree, from a colony of bees, for a small hot-bed; or if a larger one is wanted, three or four colonies can be placed side by side when fixed for winter, or when setting them from the cellar."

"But how do you keep the dirt and moisture from making the top of the hive or colony wet and nasty?"

"I take off all wooden caps or covers and spread a part (or all) of an old thinnish bed-quilt over the top of the frames, and a piece of enameled cloth over this, enameled side up. Over this a sheet of galvanized iron is placed, and over this the frame is placed, shutting down over the iron so that the outside air can not strike this iron so as to convey the cold in or the heat out. Now put in your dirt, and cover the frame with a sash the same as you would any hot-bed."

"That seems easy. But what about the water, should you happen to use too much?"

"It is always best, during spring, to have the hive tip toward the entrance; and it is better to have the entrance face south. When so fixed, if too much water is given it simply leaches down on the outside of the hive, and runs to the ground off the alighting-board. Yes, and that makes me think. On cool and cold days the bees will often come out and take water from this drip, instead of trying to go to the brook or regular watering-places, when it is too cold for them to go safely, should a cloud come over the sun. And so we have our bees watered with lukewarm water right at their very door."

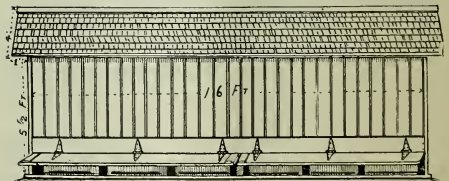


HOUSE-APIARIES; NO TROUBLE IN WINTERING EXCEPT IN NORTHERN STATES.

I see S. A. Niver, in the *Bee-keepers' Review* for February, has discarded house-apiaries because of winter loss and loss of queens. I mated fifty queens in house-apiaries last summer. I do not remember losing one—certainly no more than if they had been set out. But there are three or four distinct colors in which the hives are painted—not the house.

The entire end of the hive is exposed. I have tried a number of kinds of house-apiaries. I have used this kind for many years with perfect success.

In regard to wintering, I winter eight colonies in each house. In the spring each end hive is moved out, making six to 16 feet. If the weather is warm enough for a flight in the winter I raise the door, exposing the hives to the sun. The sun must shine on the entrance to get a cleansing-



flight. If the hives sit back with a long entrance and double wall, the weather will have to be very warm to get a good flight. I do not advocate wintering in a house-apiary in the Northern States. I live in North-central Missouri, and have never lost a colony in 28 years that I can remember. Of course, I double all weak ones in the fall, and pack with a superful of absorbents (leaves or chaff) on top, taking care to leave an upward passage above the frames. However, a colony should have 40 lbs. of stores to winter on and for spring breeding.

Marceline, Mo.

IRVING LONG.

[This embodies a principle of house-apiary construction that is somewhat different from any thing hitherto described in the journals,

if I mistake not. The feature of having trapdoors opening and closing I believe to be excellent if not new, for the bees may then be allowed to have a flight whenever weather conditions seem to warrant it. One possible objection to this form of construction of a building would be that the outside bees—those bees from the yard—could go between or over the hives into the building, if I understand the matter properly. The ordinary house-apiary is a convenient place for the storage of honey and combs, and these could not be exposed in a building of this kind without danger of inciting robbing.

It is pretty well settled now that any form of house-apiary construction should involve the use of outdoor hives so that the outdoor bees can be brought inside, and those inside taken out. Supers and all other fixtures can thus be used interchangeably.

Painting the entrances of the fronts different colors works very satisfactorily. I saw the principle put into practical application at F. A. Salisbury's, at Syracuse, N. Y., in the case of a house-apiary holding 200 colonies. He reported to me at the time that he had no trouble from losing mating queens; and as I saw the bees flying back and forth it was evident to me that they had no trouble in locating their entrances. Prior to the use of these different colors Mr. S. explained he had had some trouble.—ED.]

HOFFMAN FRAMES IN NEW ZEALAND; ZINC COVERS; CURRENTS OF AIR UNDER HIVES.

In course of time most people drop down to the plan of working bees that suits them best. I have discarded hive-stands, as I believe the hives are better with a free current of air beneath them, and bees less liable to attacks of disease. My hives stand four feet apart on two 2x4 scantlings, 4-inch side up. The one in front is 9 inches high, and the other 10; the two are 20 inches apart, supported by wooden blocks.

The hive-covers of the "Excelsior" pattern used to leak, so I nailed a strip of board on the top to make them level with the end-cleats. I next nailed $\frac{1}{2}$ -inch boards all over the tops, running from front to back, and finally covered the whole, top and sides, with zinc which is painted white. These covers are heavy enough to remain on the hives in a high wind, and never leak. Since I placed my hives on scantlings, and covered the tops with zinc, my bees seem in better condition.

As to foul brood, I at one time thought chemicals good; but too much of this disheartened the bees; and I believe the only satisfactory way is to shake them on to clean frames and burn the old combs or melt them down.

The first Hoffman frames I used had full-length top-bars, and the bees stuck them tightly against the hives. Later I cut off $\frac{1}{4}$ inch from each end of the top-bars, and put staples beneath, and I am very much pleased with them, because there is no question as

to correct spacing—just push them together closely, and all is correct. I use 9 frames and a division-board, making 10-frame hives.

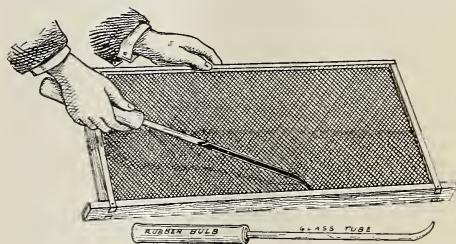
This is the worst season for honey I have experienced. It is nearly Christmas (equivalent to end of June in the northern hemisphere). I don't think my bees have stored a pound of honey—wet and wind, wind and wet, day after day. CHAS. F. ENGLAND.

Foxton, N. Z., Dec. 21.

[Different people have different notions; but it is hard for me to explain why any one should desire to use Hoffman frames with long top-bars. Of course, the argument is put forth that these projections are necessary for handling; but I very seldom pick up a Hoffman frame by the "ears." I prefer to grab the top-bar at a point just inside of the end-bars, where I can get a good secure hold for shaking or brushing. For the purpose of examining the comb surface I may handle by the ears, but only then.—ED.]

FASTENING FOUNDATION TO THE TOP-BAR WITH A BULB AND GLASS TUBE.

I send a sample of the wax-tube foundation-fastener that I use. I consider it far superior to the VanDeusen. I fasten super foundation similar to G. J. Yoder, p. 487.



I do not use rosin, but pure beeswax, and have no trouble. I use the tube as I would a dropper. The glass tube must be so that it can be readily pulled out, for once in a while I forget and hold it point up, and the wax runs down inside and hardens. I can not control the stream from the VanDeusen tube so as to use it for fastening super foundation. These fasteners of mine cost me 7 cents for material, buying at retail.

S. J. GRIFFEN.

Bridgeport, Ct., Feb. 25.

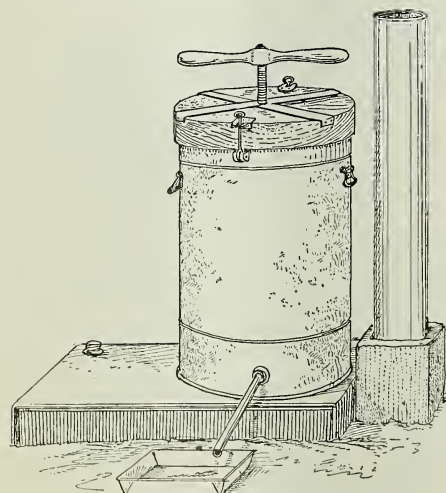
[I will explain to our readers that the device here shown is made up of an ordinary piece of glass tubing that can be obtained at any drugstore, perhaps 12 inches long, and a short length of $\frac{1}{4}$ -inch rubber tubing just right to slip over the glass tube. The other end of the rubber tubing is plugged up. The glass tube is bent in an alcohol flame, the end brought down to a small orifice. This any druggist can do for you if you will show him the illustration. To operate, squeeze the rubber tube in the hand while the glass tube is immersed in a pan of hot wax. Release the pressure on the tube, when the wax will flow up into the glass

tube. Next draw the open end of the tube along the edge of foundation where it comes in contact with the top-bar. While drawing the tube, increase the pressure on the rubber handle, forcing the hot wax out in a fine stream.

This principle is all right, but we do not find it as convenient to handle as our regular Van Deusen fastener with an orifice in the handle that regulates perfectly the flow of wax. I might say that, within twelve months, we have made a change in the Van Deusen method of manipulation. The hole for the air-vent is put in the handle, so that there is no danger of burning the fingers, and the tube is made of drawn brass. This is cheaper to make (sells about same price), and in our experience it gives a more even flow of wax. The Griffin tool, above shown, requires a uniformly increasing pressure on the rubber handle, otherwise the wax will not run out. —Ed.]

A SEPARATE GENERATOR OUTDOORS FOR THE GERMAN WAX-PRESS.

I am sending you a picture of my wax-press. This is one of the first presses you made, and the cast-iron cover was not good. I broke it all to pieces, and then made a cover of a three-inch oak plank, with a cross of wagon tire across the top. Then I cut a



1½-inch hole in the bottom of the press, which fits over a spout in the steam-tank as seen in the picture. I fill the tank with water in the morning, which will last until noon. Before I go to dinner I put in more water, to last until night. No time is lost in getting up steam, as by the cook-stove method. I use sage-bush, tree-prunings, and slumgum in the furnace. Now I have a machine worth twice as much as when I first bought it. I can press all the wax out without being afraid of breaking it. I put only a piece of burlap in the bottom of the basket. I find that best. I like to put the frames right in the press to melt the combs

out. It takes only eight. I should like to have it larger and square. The grate in the bottom should rest loose on an iron ring so it could be removed for cleaning. The press, as I now have it arranged, is a fine thing to melt cakes of wax. JAMES HORNBACK.

San Jacinto, Cal., March 6.

[We believe that this idea is a valuable one in a good many ways. It furnishes a method of generating steam quickly, with comparatively little trouble and fuss, and in a place where wax drippings will do no harm. To say the least, rendering wax from old comb is a "messy job." If the furnace is made large enough to accommodate a good-sized can also, one batch of comb may be melting while another is in the press—according to the plan which we recommend in our directions. In this way as much as one hundred pounds of wax may be obtained in a single day, and, what is more important, the refuse left is clean. Few bee-keepers have any idea of the dollars they are throwing away or burning up in the refuse of old comb when they do not use some sort of heat during the pressing.]

The first few presses that we made had cast-iron covers, but we soon learned, as did Mr. Hornback, that these were not strong enough. But instead of using a heavy cover made entirely of oak, we have been sending out, since the first few, oak cross-arms strengthened by heavy cast-iron underneath, which have proven entirely satisfactory. — H. H. Root.]

CEMENT FOR OUTER WALLS OF HIVES AND FOR FOUNDATIONS OR STANDS.

The hive at best is not satisfactory to me. The Dovetailed is about the best form that I know of. It is all right for summer, but too frail for wintering. The chaff hive is good, but short lived. I have had much experience with cement, and I have an idea of an outer wall and foundation slab in which to place our single-wall Dovetail hives, and keep our bees in this kind of inclosure instead of the chaff hive. This is for a permanent apiary, when the bees are not intended to be moved, and I have in mind a permanent foundation of cement, or a slab of cement say about two inches thick and of sufficient width, and project in front for an alighting-place for the bees. Then make the outside wall or shell about two inches thick, and of such height as is most convenient, say for two stories, and covered with a wooden cover. This outer case of cement should be sufficiently large to give about 1½ inches of space all around the Dovetail hives to give an air-space and also for convenience in taking the hive in and out when this should become necessary. Would such a stone slab be too cold in winter or spring for the bees? or would it be necessary to have a wooden bottom to the hives in such a case? Has such a case ever been tried? If it has, what were the results? If it has never been tried, what is your opinion of it?

Saint Paris, O.

GEO. DORMIRE.

[One of the Somerford's, of Cuba, I believe, has gotten out a patent for a hive made entirely of cement. He argues that the cost will not be great, and that the hive will last for ever. But a hive *all* of cement or stone, we will say, would not do at all in a northern climate, as the stone would be too cold. In chilly or cold weather the outdoor temperature would be transmitted clear through the walls into the cluster of bees. But you do not contemplate a hive of that kind. You would have the outer wall of cement and the inner one of wood. This arrangement would be somewhat expensive, and, what is more, the outer walls would be very heavy; and, besides, there would be danger of their breaking in handling. All hives ought to be adapted for the out-apiary, and should have a certain amount of portability. For that reason it is my opinion that any material, adding to the present weight of our hives, would be objectionable.]

Some years ago one of our correspondents suggested the use of cement for bottom-boards. These were made large enough to extend around the sides of the hive to keep away the grass and make a nice slanting doorway to the entrance. But cement, even as a bottom-board, would absorb too much of the coldness of mother Earth when the ground is frozen all around it. There ought to be at least a bottom-board of wood on top to shut off the too rapid absorption of the heat of the cluster.—ED.]

THE ADVANTAGE OF KEEPING BEES IN AN ATTIC IN THICKLY POPULATED LOCALITIES.

I got 154 lbs. of surplus honey, as we call it here, beautiful section honey, from one colony which I have in the attic of my parsonage. I live on a beautiful residence street. A fact that too few people know in regard to bees is that, if they are located very high from the ground, they never bother people on the ground. Our neighbors did not know that we had bees till a year after we had them in the attic. When I presented them with some beautiful sections of honey they were surprised to learn where the honey had been made.

Danville, Pa., Jan. 20. N. E. CLEAVER.

[This is a good suggestion where the population is more or less congested. There are many persons who would like to keep bees enough to get a little table honey of their own.—ED.]

MORE ABOUT A. C. MILLER'S INSTRUCTIONS FOR INTRODUCING.

In a footnote to one of Dr. Miller's Straws, page 163, you ask to hear from others who have had experience, and it is not quite clear to me whether you refer to scent or introducing. If to scent, I have no comments; but as to introducing I feel it my duty to give my experience, since reading Mr. A. C. Miller's article on that subject, as I am in a warm climate, and can do some experiment-

ing that will be of benefit to those in a cold climate later in the season.

I commenced the operation of introducing according to A. C. M.'s instructions, with some misgivings; but I had a queen that I supposed was an old worthless one, but wanted her to keep the colony along until I could get young ones fertilized to take her place, but concluded to experiment with her. The reason I supposed her to be old was that she had a very small colony, and no cell had less than three eggs, and some so many I could not count them. I introduced her into a large queenless colony as directed by A. C. M., and, to my great surprise, on the following day I found her as lively as a cricket, with two frames nearly full of eggs regularly laid, one in a cell. I account for so many eggs in a cell, not on account of age, but a desire to lay; and the colony being too small for her capacity, she laid them in the cells which the bees could cover. I introduced six others with the same results; but none were so prolific as the first, but all did well. I used a very little smoke at the top only. As I expect to introduce several hundred queens this season, one can readily see the value to me of Mr. Miller's article on the subject of introducing.

Mr. Miller speaks of introducing virgins from the mails in the same manner, so I conclude that, to introduce virgins into nuclei, would work as well by the same methods as fertilized queens.

If I understand Mr. Miller correctly he does not attempt to prove that bees have no powers of scent, but that it is not the controlling factor in introducing which is claimed for it, and he surely has some foundation for his belief, as my own experience proves. I would not hesitate to introduce valuable queens by this method now, and I think Mr. Miller has contributed some very valuable information on the introduction of queens. E. M. GIBSON.

Jamul, Cal., March 6.

[Facts are what we want, no matter whom they favor.—ED.]

TWO SOUNDS MADE BY QUEEN; HOW TO DISTINGUISH; AFTER-SWARMS WITHIN FOUR TO SIX DAYS.

In reading the Feb. 15th issue of GLEANINGS I was much interested in Mr. Doolittle's conversation, which was a short treatise on the controlling of after-swarms. He describes two methods as used by himself with success for a number of years, and in the latter method he mentions the noise or voice of the queen, which aids him in determining when an after-swarm is expected. The ABC book mentions two noises made by the queen—one while yet in the cell, and another after being liberated. To which one of these does Mr. Doolittle have reference? and how are we to distinguish the difference between the two?

Again, Mr. Doolittle infers that an after-swarm is not expected until the eighth or ninth day. While that is the rule in his

locality, we frequently have an after-swarm here in from four to six days, or at least I have had several such in my three or four years' experience. What is the cause of this excessive swarming? Can it be prevented?

HARRY STEPHENS.

Ashley, Ill., March 2.

[Dr. Miller describes the two notes given by a queen by saying one is *zeep* — *zeep* — *zeep*, and another one a quahking, pronouncing it so as to rhyme with hawking. The last sound is made inside of a queen-cell, and is a sort of baby-queen note. The other sound is that of a more mature queen, often uttered in fright, and sometimes in a call which we bee-keepers do not understand. Several years ago, happening to stand in front of a hive I heard several long sounds of "zeep — zeep — zeep," in succession. Looking down at the entrance I saw a queen preparing to take flight. Immediately there was an onrush of bees, and the air was soon filled with the swarm. Evidently the sound was used to call the bees. I have never since noticed a queen thus calling at the entrance, and in any case would not conclude that the queen led forth the swarm invariably. Indeed, we do know that bees often and perhaps generally take the initiative. Well, now, to get back to the answer of your question, I would say that Mr. Doolittle referred to the *zeep* which virgin queens very often make.

While he stated correctly the general rule with regard to the issuing of an after-swarm, yet there are some variations.—ED.]

DO BEES HAVE MORE THAN FIVE SENSES?

Is it possible that scent is that kind of entity that bees recognize by sight instead of smell?

If honey-comb be burned in a manner that the smoke from the burning comb be not visible, how do bees recognize the fact?

Can bees hear as keenly as man does? May not bees be deficient in some of the five senses that we possess?

Is it not possible that bees possess one or more senses that we do not, and still be short in some of the five senses of man?

What evidence have we that bees possess the sense of taste? Why can they not distinguish between poisonous and non-poisonous flowers?

If thought or nerve vibration is a million per cent greater in bees than in man, would that make the bees' three-months' life seem longer or shorter than threescore and ten years seem to man?

When you take a score of young bees from a hive before any of them have ever flown, and release them ten or twenty rods from the parent hive, without fright, what sense is it that guides most of them to return?

J. W. PORTER, M. D.

Ponca, Neb.

[Dr. E. F. Phillips, of the University of Pennsylvania, who has made this matter a special study for two summers here at Me-

dina, in which he did practically nothing but watch bees, gave it as his conclusion that young bees were guided toward their entrances very largely by scent. He even went so far as to say if they were taken away a short distance and allowed to fly they would find their own homes through this one sense of smell. Hitherto I had not believed that young bees would be able to find their entrance unless they had previously marked it in the usual manner. I should be glad to get reports from others on this one point. Our correspondent asks several other questions, which I leave to our readers to answer.—ED.]

UNREFINED AND BURNT SUGAR AS FEED FOR BEES.

I send you a sample of some sugar which is said to be used here for feeding bees. Will you kindly tell me whether or not it would be injurious to the bees, and how it should be fed? If fed during spring or summer, and some of it stored by them (should they leave it over in the hive), would it injure them to eat it during winter?

F. B. FREEMAN, M. D.

San Francisco, Cal., Mar. 2.

[I do not remember to have seen a sample of the sugar you refer to; but as a general rule we may say that any burnt sugar should not be used for a winter food, as it is inclined to bring on dysentery. It might not, however, in the mild climate of San Francisco, produce any serious results.—ED.]

PROTECTING HIVES IN WINTER WITH THREE CENTS' WORTH OF OILED SHEETING PAPER; EXTRA BODY ON TOP.

In wintering my ten-frame Dovetailed hives this winter I protected them with an oiled sheeting paper 18 inches wide and 72 long, wrapped around them tight, with strips nailed at top and bottom. This paper is dark-colored, and is both air-tight and water-proof. The cost of paper averages about three cents per colony, and from present indications it will last another winter.

Over the bees I place a Hill device for passageways, and on this a piece of bagging and an extra body filled with six inches of ground cork or oat chaff. I raise one end of the cover of the hive about $\frac{1}{2}$ inch, with a strip laid across it to allow all dampness from the bees to dry out. The bees seem to have wintered finely so far.

H. P. FAUCETT.

Brandywine, Pa., Mar. 3.

[Your method of wintering will do well, or fairly so, in a comparatively mild climate; but I hardly think it would be safe 150 miles west of you away from the moderating effects of the ocean. We tried practically the same thing here in Medina, but lost a good many colonies so protected, while those in double-walled chaff hives came through in good order.—ED.]



Abstain from all appearance of evil.—I. THESS. 5:22.
Let your communication be Yea, yea; Nay, nay; for
whatsoever is more than these cometh of evil.—MATT.
5:37.

Dear friends, in this Home Paper I am going to find some fault with some of the modern methods of doing business; and realizing how easy it is to go a little too far in criticising those around us, especially when we undertake to criticise the heads of great institutions, I have been earnestly praying the Holy Spirit may guide me. Nay, I have been praying that it might be *close to me* while I dictate, so that I may be able to do good and not harm. This same Holy Spirit has been reminding me that I am getting old, and these pushing business firms are mostly managed by younger people who may not feel and think just as we older ones do. I can not agree, however, with Dr. Olsen that people after they get to be 60 or 65 are no longer needed in this world of ours. I imagine by the comments of different periodicals that there are very few in the world who do agree with him. No doubt, however, there are places where the older ones should step back or stand aside a little to let the younger ones manage things. In fact, that is just what I have been doing for several years past, and I have found great peace and happiness and enjoyment in so doing, even though some of my pet schemes and plans have been overturned and kicked aside in the march of progress. With the above preface I will tell you what I object to.

For years past one especial trusty clerk has been entrusted with the task of opening all our mails. Perhaps I may as well say that this trusty clerk is Mrs. Root's sister. Sometimes when people accuse us or our clerks of taking people's money out of letters and then saying the money was not sent, I have felt obliged to tell them that the money is taken out of all the letters that come to our office by Mrs. Root's sister, and I believe this has always silenced all intimations that we have clerks to handle our mail who *might* be dishonest. Well, there has been such a great *pile* of letters of late I have told Mrs. H. she need not stop to read *every* long letter through, to see what department of our business it needs to go to; and I especially told her not to waste her valuable time in reading letters that were simply printed in *imitation* of a type-written letter. Very soon she informed me she was unable to tell personal letters from our customers from imitations. As an illustration, some particular friend of mine (at least the letter looked that way) said that he wanted me to make a test of a special brand of Kentucky whisky, and gave his reasons. Now, many of you know that it would puzzle almost anybody to tell whether this letter was written by somebody who

was anxious about my health and personal welfare, or simply a printed circular sent out by the thousands. I explained to her that, if she would turn the letter over and look at the back side she would notice where the periods had indented the paper in a written letter, but with the printed letter the paper would be left flat like any sheet that comes out of a printing-press. When I told the boys, however, that they could not fool *me* with such imitation letters they began to laugh. One day I got a letter from the Moody Bible Institute, reminding me that I had at different times given them a little assistance, and asking if I felt inclined to remember them this year. The letter started out "Dear Mr. Root." I turned it over, and it had the period-marks of an actual letter. Then I showed it to the boys as an illustration of a personal letter from a business man, and said, "Now, the writer of this letter, I am sure, knows me, and knows that I love the Bible, love righteousness and hate iniquity, and perhaps knows of my Home Papers, etc." My son-in-law, Mr. Boyden, began laughing, and asked me to wait a minute. After hunting over a pile of letters he held up a perfect fac-simile of my own, except that it commenced "Dear Mr. Boyden." I confess it was quite a shock; for ever since I heard of D. L. Moody, heard him talk, and kept track of his work, I thought he was proof against any *sort* of deception; and I had faith, too, that the work he had started would be carried on in the same way. Ernest finally said something like this: "Now, father, do not be too hard on these people. My opinion is, those two letters were actually written; but the stenographer was, perhaps, told to write *bona-fide* letters after that form to a special list of persons. Why, I often tell our stenographers to write the same thing to several people."

Then I remembered that, a few days before, a man asked a lot of questions about sweet clover. Our new leaflets are not yet out, so I dictated the main points to him. A little later another letter came, so near like it that I told the clerk to repeat what she said to the former inquirer. Now, this may be all right; but what I object to is going to such pains to *deceive* people to make them think a printed letter, which can be furnished for a fraction of a cent, is a special letter that it cost the writer time and earnest thought to get up—such a letter as might cost a dollar or two.* I may make this plain by mentioning these absent-treatment doctors. I am glad to say we do not see or hear much about them now; in fact, I can not recall their names. Well, it transpired that these doctors had a list of let-

* Since the above was dictated I am informed there are different inventions in the way of type, and also of a blanket to put on the press, so the periods will print through the printed work exactly as they do with the typewriter. Now, men have gone to work systematically to perfect machinery for cheating people who get letters; and all this in order that "even the very elect," to use a scripture phrase, may be deceived and humbugged.

ters to fit different persons with different diseases. They were so skillfully worded that some one of them would fit a large number of sick people. In order to make them feel sure it was a carefully prepared missive from experienced physicians, they had words crossed out as if the typewriter had made a mistake. Others were spelled wrongly; and there was no end to the scheme to make a person think the doctor was greatly interested in that particular case. Yes, a godly man was he. He was doing sick people *good*. The small amount of pay he asked was a minor consideration. You may remember the postal authorities had a hard time to break up this kind of devilry, for that is exactly what it is.

When one of the big doctors was away off in California with his pockets full of money, and, while his stenographers were sending out his printed letters, he was taken to task. Then he tried to explain that he could cure while in California just as well as if he were in his office, even though he did not see a description of the various maladies at all. When the government stopped his mail he simply changed the name of his institution, and kept right on. So much for the illustration.

Now I am afraid that some of our business firms, in their anxiety to advertise, are adopting similar plans with their printed letters. Not only this, but our Christian institutions seem to have fallen into the habit or trick. Please do not misunderstand me. There is no objection to printed letters and leaflets at all. We are sending them out by the thousands, and they are doing a vast amount of good. When I ask why these leaflets are not all printed with common type, the explanation is that people are so apt to throw them into the waste-basket without reading; while a personal letter from somebody, they would feel bound to read. Very true. But is it really honest to go to work systematically to fool people? The objection is often thrown up to me, "Mr. Root, you are altogether too particular. Nobody is fooled by these things, because it has got to be such a common everyday transaction." May be you have heard this kind of logic a good many times—nobody is fooled by extravagant advertising, etc. People are fooled, or else this business would not be so much on the increase. Two small boys in our own establishment were "fooled" by Duffy's statement that a man lived to be 107 years old who drank whisky every day; and when you get around to it, not only was Mrs. Root's sister fooled, who has been opening the mails for years, but I was fooled; and I have been fooled so much I have become suspicious of good honest letters. By the way, let me say I do not believe in this "chain-letter" business; and I think the postal department agrees with me. Every little while I read some pathetic letter half way through before I discover it is a copy made by some idiot to be forwarded to another idiot. The saddest part of it is, if I do not look out I am idiot No. 2.

Some little time ago a touching letter came from some charitable institution in the South. I think it was for educating the poor whites' orphans, or something of that sort. Their plea for aid was so very touching I carried it to Mr. Calvert, not thinking for a moment that it was a printed letter. To my surprise he pulled an exact copy from his pocket, and said he had been wondering if we hadn't better give them aid, even if it was a printed letter. The appeals for funds were written by a young lady, or at least the word *Miss* was written near her name, in a parenthesis. It would appear that a young woman, possibly a teacher, was so enthused with the missionary spirit that she had appealed to business men for help in their Christian work. Had it been a real letter to myself by somebody who knew that I sometimes aid such institutions a little, I might have sent something; but when I realized that many thousands of such letters might have gone all over the United States, I threw my letter in the waste-basket and forgot about it.

Let me digress here sufficiently to say that complaints in regard to our method of doing business are, by my directions, given to me at once. For instance, if a man says he sent us money with a certain order, and waited a sufficient time without getting a sufficient acknowledgment, I always "go for" the clerks or the younger members of our firm. We pride ourselves on promptness in acknowledging every kind of order unless the goods go by mail or express so as to get there as soon as the letter would, or something of that kind. Well, I had been thinking our whole force was getting to be pretty well drilled in this matter until a postal card was put in my tray one morning, reading as follows:

MR. A. I. ROOT.—Several weeks ago we wrote you concerning a very urgent and important matter. Since then we haven't ceased looking for a reply. Please let us hear from you, if not a line. Many thanks in advance.

Respectfully,

Charleston, S. C., March 13, 1905. (MISS) E. A. CLARK.

As soon as I read the words "urgent and important matter" I marched straight to Mr. Calvert, and asked him if he knew any thing about an order for goods, or something of that sort, from Miss E. A. Clark. He began to laugh. He said, "Why, you yourself, father, had her letter, and I had one too—don't you remember?" Then he pulled out of one of his side pockets the very letter we had talked about. This woman, Miss E. A. Clark, fooled me with her long letter about the needs of their institution, and then she fooled me again with her postal card. In fact, I do not know but I got into a bad frame of mind just to think that anybody in our institution might have kept some honest customer watching every day for a reply. I am afraid Miss E. A. Clark has not received any reply yet, and will not until she sees it on these pages. Perhaps it would be uncharitable and unchristianlike to suggest that the word *Miss* might have been added only to make people more ready to read it. God forbid that such should be the case; but I do hope those people in the South who

are managing a Christian institution will see that they are getting out of the straight and narrow way when they permit cards like the above, written so skillfully with a pen* that even I did not think of its being a copy of something gotten out by the thousands. My good friends, you have no right to push your literature into a busy office like ours in the spring of the year, under the pretense that you are a business customer. Now, I do not mean to be unkind nor uncharitable; but I do mean to insist, in the language of our text, on abstaining from all appearance of evil—especially if we claim to belong to the Lord Jesus Christ. If people will not pay attention to honest appeals for money for charitable purposes, then go without it. It makes me think of the colored people down south who could not pay their minister unless they raised funds by getting up a chicken dinner. Well, they had the chicken dinner. It was well attended, and they had a joyful time; but when they evened up their finances they found the chickens cost more money than they received in admittance fees, and the poor minister was further from getting his scanty salary than he had been before. If we can not raise the money for church expenses, or to pay the minister's salary, in the way of honest square deals, then let us work on a smaller scale until we get a healthy enthusiasm worked up solely for the kingdom of God and his righteousness.

Now, there is something else that worries me right in line with that word *Miss* that was on that letter and postal card. A great many times people will pay attention to a letter from a woman when they would not if it were written by a man; and if the woman signs her name *Miss* instead of *Mrs.*, probably she would stand a little better chance of receiving recognition. This is all right in the right way; but it is not all right in a wrong way. When I was in California it was my great pleasure to visit the establishment of a woman florist—Mrs. Theodosia V. Shepard. I think she was then in Ventura. She told us why she started out as florist, and how she surmounted the various obstacles. While I was in Florida I visited two young ladies who were growing flowers in a canvas greenhouse. We all rejoice to see women go into business—especially certain kinds of business such as growing flowers, for instance. I do not know how many successful women florists there are in the United States. There are several in one Ohio city. I was thinking lately they must be succeeding, because the number is increasing so fast. Well, a while ago in discussing the various avenues that are opening by which women may support themselves, an advertising agent informed me there are *not* so many woman florists in reality. He said certain men who wanted to push business had found that, if they issued a catalog, and advertised the name of

a woman, especially an unmarried one, more people would send in their orders.* Our wives and mothers love flowers, and many of them, perhaps, would feel more at home in writing to a woman, and stating just what they want, than in writing to a man. Some of you will say again, I am pretty sure, "Why, Mr. Root, what difference does it make what special form or plan a man adopts to attract attention to his business, providing he fills orders promptly, and sends out goods that are satisfactory? What difference does it make to *you* who puts up your goods if they give satisfaction?" I do not know how many of you will agree with the above. God forbid that there should be many of our people who say it does not make any difference whether we have been deceived or not, so long as we get exactly what is wanted. The Savior said, "Let your communications be Yea, yea; Nay, nay; for whatsoever is more than these cometh of evil." While I rejoice in progress in exploring and developing our resources as much as anybody in the world, I feel like saying, God forbid that we have any more inventions that enable us to get money or trade by deceiving people as to the real truth. Some of you may urge that I am damaging the business of the women florists by these *suggestions* that they may not be women after all. Not so. Everybody who does business is quoted by Dun or Bradstreet. By going to any bank you can find out whether the woman owns a greenhouse and conducts business where the catalog or printed advertisement says she does. Some of you may urge that it is a woman's privilege to have a man own her greenhouse, and have his name quoted commercially, and that it is all right. This may be true; but if in our anxiety to see a greenhouse managed by a woman (perhaps to see how much nicer and neater she would keep the premises than a man naturally would) we should make a call on such a greenhouse, and not find any woman around, nor any evidence that a woman had any thing to do with it, would we not be justified in deciding that the catalog and advertisement were misleading?

It is not alone missives by mail that are planned to deceive people. The *Rural New-Yorker* recently gave a column toward explaining, and cautioning people about being caught by an advertiser who makes a specialty of selling farms and other property. When you come to answer the advertisement, however, you will find you have got to send this man some money before he even undertakes to make a sale. Well, his latest trick is to send a *telegram* shortly after the correspondence, worded in such a way as to

* Friends, what do you think of a man who has a man's strength and a man's opportunity in the world feeling jealous of the success of a woman who has built up a praiseworthy business? She may be a widow with children to support; or she may be a young woman who has an ambition to support herself by cultivating flowers. Now, what do you think of a man who coolly plans to rob her of a part of that business by representing that his greenhouse is owned and run by a woman, or, if you choose, a *Miss* somebody when such is not the case?

* Our stenographer informs me that the postal card that fooled me so completely was produced by what is called a "mimeograph," an apparatus used to copy handwriting.

persuade one he has a customer for his property. This telegram often does the business when his carefully worded printed letters fail. A telegram delivered to a farmer out in the country is generally something of an event in his life, and he makes haste to send on the \$15, more or less. But that is the last of it. Many have reported to the *Rural* that, after sending him the money, they never heard from him afterward.

When this new revival that is going on over in Wales and in many parts of the United States gets into the towns and villages, to the big cities, and everywhere, I am sure that the Spirit that comes with it, even the Holy Spirit, will impress on all mankind the importance of letting the honest truth—*old-fashioned* truth, if you choose—entirely take the place of these misleading schemes to get the attention of the people and to get more trade and more money. God hasten the day when it will be the fashion to shun even the appearance of evil in every form, and when it will be naturally expected that every man and woman will state the plain and honest truth in business and everywhere else, and let *that* take the place of any sort of scheme to get trade or to get on in the world.

DUFFY'S MALT WHISKY ONCE MORE.

We clip the following from the *New Voice* for March 30. It illustrates the way in which the Duffy people get a man's photo as well as his testimonial, and induce sick people who are near the grave, like drowning men, ready to catch at any straw, to believe that whisky of any kind is a good medicine. Read it and then get your home papers to send out a warning. We are told there is no legal redress for this way of doing business. The only remedy is to keep exposing them as much as possible.

LISBON, N. H., March 23.—The family of the late Samuel Pike, living here, are much incensed at an outrage that is being perpetrated on them by patent-medicine quacks advertising that notorious nostrum known as "Duffy's Malt Whisky." Western papers are advertising the drug and giving a picture of Mr. Pike with what appears to be a halo of hay around his head, and with it an eloquent "testimonial" reading as follows:

"Mr. Pike bears his 90 years with becoming modesty. Grateful to the maker of this great remedy, he waxed eloquent in its praise.

"An old man like myself needs something of the kind to help nature, and nothing in liquid form was ever made to compare with Duffy's Pure Malt Whisky as an aid to health.

"A wineglassful at night has a delightful effect and insures sound sleep.

"No man feeling the advance of time should neglect to keep it in the house. Human kindness should prompt us to inform others of the benefits to be obtained from such a source.

"I am in my 90th year, and enjoy good health.

SAMUEL PIKE."

Now it appears that Mr. Pike never tasted of the stuff until after this "testimonial" was procured.

A long time after this testimonial was alleged to have been secured, Mr. Pike began taking the stuff and died.

The following letter, which Mrs. W. E. Pike, daughter-in-law of Mr. Pike, recently wrote to J. E. Smith, of Oelwein, Ia., explains how the miserable fake was perpetrated:

MR. J. E. SMITH:—We received a letter a few days ago, written to Mr. Samuel Pike, my husband's father. It is almost a year since he died. He died on the 15th

of March. A man came here about a year ago, and he had father's picture—got it of the artist. Said he represented the Boston *Globe*, and asked to see father. I was about my work, so let him go into his room. Later he came out after a pen and ink. Well, when he went away father said he was going to send him some whisky, but he did not know what for, and said he did not expect to get it. He said he wanted his name to advertise a medicine. I told him he would use his name and picture to advertise whisky, and tell how he had used it all his life. He said no, as that would be a lie, as he had never seen any of it. Well, he did send him six bottles of Duffy's Malt Whisky. Father could never see why he sent it to him. It was the first he had ever seen, and he did not take whisky until he was sick, and I gave it to him for he had a weak heart.

I do think it too bad that his picture is going around now. I can not tell you how many letters I have answered for him, since he died, about this whisky, and some of them Rev. Mr. Tilden answered for me.

Lisbon, N. H.

MRS. W. E. PIKE.

SELLING SECRETS—HOW TO DO THINGS, ETC.

The following advertisement was clipped from the *Virginia Farmer*; and as the wonderful secret emanates from Akron, the county-seat of Summit County, bounding us on the east, it has been sent to me several times. Of course, I sent the 20 cents in order to give all our readers the wonderful secret, and here it is:

HONEY-BEES OUTDONE.

We got 'em beat! Our formula makes fine healthy honey for only 5 cts. per pound. Formula and complete directions mailed free for 20 cts., or free if you send 50 cts. for ——— one year. Make a fortune manufacturing this honey put up in glass tumblers. You can double your money and still undersell all others.

Address ———

HONEY FORMULA.—Take "A" sugar, 5 lbs. Water, one quart; gradually heat to boiling. Skim well. When cool, add one pound bee honey, 4 drops peppermint essence. Put up in small glass tumblers for retail store trade.

If 20 cents were not such a trifling amount it might not be worth while to make a fuss about it. But even then it is a slur on and a disgrace to bee culture. The secret seems to be adulterating honey with sugar, which is about as well known as any thing can be, and then adding four drops of peppermint essence. I suppose the 20 cents is for letting you know about the peppermint. If bees were in the habit of getting honey with a peppermint flavor it might help some toward the imitation.

Now, friends, this is a fair sample of the whole business of selling secrets. You get just about as much information, no matter what you pay, dimes or dollars. Of course, it is a swindle on a small scale. The bees are *not* "outdone;" it is *not* honey; and it can not be made for 5 cts. per pound either. Some of our friends have felt a little hurt because I have refused to permit any thing of this kind in our advertising columns. That is, if any thing of the kind has gone in it has been during my absence or escaped my attention. One brother wrote, when I rejected his "secret" that he wanted to sell for 25 cents, that it was one he paid one GLEANINGS advertiser \$2.50 for. I have asked him when and where, etc.

Let me say once more that the class journals contain all the valuable secrets that are known. If they do not get hold of them

right away they will very soon after the thing is known to anybody. And there are now good books on almost every subject imaginable, and you can almost always get a nice book giving all the information to be had on the subject for a lesser price than

you pay for one single secret. By the way, this honey-man says, in a "dollar book of secrets," that you can make cheaper honey for *every-day use* by using common brown sugar. What a wonderful piece of news that is, any way!

The Honey Producers' League.

Prospectus and Constitution.

A crisis has been reached in bee-keeping. The time is now here when bee-keepers must band together, as never before, fight an insidious foe, and cope with the conditions of modern times. In short, the wide-spread ignorance regarding the value of honey as a food (its deliciousness, cheapness, and digestibility), coupled with an almost universal belief in its adulteration, which belief is fostered by the continued publication of untruthful stories concerning so-called manufactured comb honey, to which may be added the fact that cheap syrups are being pushed upon the market with great vigor—all these combined are depressing the honey market beyond all precedent; and, unless something is done to counteract these influences, our occupation, or, at least, a good share of its profitableness, will soon be gone.

A large share of last year's honey crop is still unsold, while the market is practically *dead*, as is easily shown by reference to the market reports. The crop of the

coming season will soon be here; and, should it prove a bountiful one, with last year's crop still unsold, where will prices go then? We may as well face the situation squarely. Then comes the all-important question: What shall we do about it?

Three or four of us began recently to discuss this question, privately, by mail, and we decided to act *promptly*, to the extent of summoning (some by telephone and telegraph) to a conference in Chicago, some eight or ten representative manufacturers, dealers, publishers, and honey-producers. As a result, such a meeting was held March 14th and 15th, the whole two days being occupied in forming an organization, and in discussing ways and means whereby said organization can increase the demand for honey.

The first step was the drafting of a constitution which reads as follows:

Constitution.

ARTICLE I.—NAME AND HEADQUARTERS.

SEC. 1.—The name of this organization shall be "The Honey-producers' League."

SEC. 2.—Its headquarters shall be Chicago, Ill.

ARTICLE II.—OBJECTS.

Its objects shall be to create a larger demand for honey by popularizing its use among the consuming public through advertising in newspapers and magazines its great value as a food, and by such other methods as may be considered advisable by the Executive Board. Also by publication of facts concerning the production of honey to counteract any misrepresentation of the same.

ARTICLE III.—MEMBERSHIP AND DUES.

SEC. 1.—Any bee-keeper may become a member by paying to the Manager an annual fee of \$1.00 for each 20 (or fraction of 20) colonies of bees (spring count) he owns or operates.

SEC. 2.—Any honey dealer, bee-supply dealer, bee-supply manufacturer, bee-paper publisher, or any other firm or individual, may become a member on the annual payment of \$10.00, increased by one-fifth of one (1) per cent of his or its capital used in the allied interests of bee-keeping.

SEC. 3.—The annual dues shall be payable in advance, on or before May 1 of each year.

SEC. 4.—Membership shall cease when dues are in arrears three months.

ARTICLE IV.—EXECUTIVE BOARD.

SEC. 1.—An Executive Board consisting of seven members shall be elected by mail ballot annually in the month of March (after the first election), the ballots to be sent to the membership between March 1 and 5, the

polls to be closed at noon April 1. They shall be the seven members receiving the highest number of votes cast. In case of a tie-vote the other members of the Board shall decide it.

SEC. 2.—The votes shall be mailed to the secretary, who, with another member to be selected by the remainder of the Executive Board, shall, together, count the votes, and certify the result to the Manager, who shall then forward copies of the same to the United States bee-papers for publication, also give same in his annual report.

SEC. 3.—The Executive Board shall have the general management of the League, and shall elect from their number the officers named in ARTICLE V, Section 1, who shall execute the orders of the Board, and hold their several offices until their successors are elected and qualified.

SEC. 4.—The Executive Board shall meet annually, on the third Wednesday in April, in Chicago, for the election of officers, and for the transaction of such other business as may regularly come before it.

SEC. 5.—Special meetings of the Executive Board shall be held when called by the President, upon request of three or more members of the Board.

ARTICLE V.—OFFICERS.

SEC. 1.—The officers shall be a President, Vice-President, Secretary, Treasurer, and Manager.

SEC. 2.—The duties of the President and Vice-President shall be such as usually devolve upon these officers.

SEC. 3.—The duties of the Secretary shall be to keep a record of the meetings of the Executive Board, and to count the ballots of all votes of the membership, as provided by ARTICLE IV., Section 2, the result of which he is to forward at once to the Manager.

SEC. 4.—The Treasurer shall keep a record of all moneys received from the Manager, giving his receipt therefor; and he shall pay out funds only on bills approved as per Section 5 of this ARTICLE.

SEC. 5.—The duties of the Manager shall be to conduct the actual business of the League as directed by the Executive Board; to keep a list of the membership; to account for all moneys received, and turn same over to the Treasurer, taking his receipt therefor; to prepare and mail, in March of each year, to the membership an annual report containing a financial statement, and such other matters as would be of interest to all concerned, including all ballots and amendments; and to issue orders on the Treasurer for payment of all bills, when countersigned by the President.

SEC. 6.—The Treasurer and Manager shall each furnish such bond as shall be satisfactory to the Executive Board.

ARTICLE VI.—SALARIES AND EXPENSES.

SEC. 1.—No salary shall be paid any officer of this League, but the actual expense of holding meetings of the Executive Board (when they deem such necessary) shall be paid from the general expense fund.

SEC. 2.—There shall be an allowance of five (5) per cent of the cash receipts to cover all general expenses, such as printing, meetings of the Executive Board, etc., the remaining ninety-five (95) per cent to be applied on the advertising proper.

ARTICLE VII.—AMENDMENTS.

This Constitution may be amended by a two-thirds vote of the membership at any regular election, providing such proposed amendment be first submitted to the Executive Board and approved by it.

Minutes of First Meeting.

A temporary organization was effected and the foregoing Constitution adopted, when, upon motion of Ralph W. Boyden, the following members were elected as an Executive Board: Dr. C. C. Miller, W. Z. Hutchinson, Arthur L. Boyden, George W. York, C. P. Dadant, N. E. France, and George C. Lewis.

A permanent organization was then formed, and the following officers were elected: President, Dr. C. C. Miller; Vice-president, George C. Lewis; Secretary, W. Z.

Hutchinson; Treasurer, Arthur L. Boyden; Manager, George W. York.

Before adjourning it was resolved to do no general advertising until there is at least \$5000 in the hands of the Treasurer; the Manager was instructed to take the necessary steps for securing the incorporation of the League; and the Secretary and Manager were appointed a committee to prepare the necessary literature for use in soliciting membership.

Some Questions Answered.

While the Constitution quite clearly outlines the aims and objects of the League, a few questions will naturally spring to the lips of one who contemplates joining its ranks, hence it may be well to answer in advance as many as possible of them.

Naturally, the first question asked will be: "Why form a new organization, when the constitution of the National allows the use of its funds for such work?" Principally, because the National has not enough money at its command to do the work effectively, and it could not raise enough without a change in its constitution. as, at present, only one extra assessment of \$1.00 per member can be made each year, while the work of advertising, to be effective, requires *thousands of dollars AT ONCE*.

Perhaps some will ask why the matter was not discussed in advance in the bee-papers, and a public meeting called. Why was the matter kept so quiet, and the work done with apparent secrecy? It was done so quickly, simply to save time. When the true situation had fairly dawned upon the three or four who were first discussing the matter, it became equally apparent that only by the most prompt and active work could anything be done that would help the sale of the last year's honey crop before the coming of this year's crop.

Some may wonder why the members of the Executive Board were all chosen so near Chicago. They were thus chosen that they might quickly and cheaply attend Board meetings. Should an important question requiring immediate action come up, telegrams sent every member in the afternoon would enable them to be in Chicago the next morning. If any mistake has been made in the choice of officers, it can be corrected at the next election. As it is, however, it is doubtful if a set of officers can be chosen who would have more completely at heart the success of the undertaking. Besides this, they are all friendly to one another, and will work harmoniously as a unit.

It may be asked why no salaries are paid the officers. If these men are willing to give so freely of their money, they should be equally willing to give their time; besides, if they were paid salaries, many might be inclined

to look upon the whole thing as a scheme on the part of the officers to put money into their own pockets. As it is, these men are really putting in their time, money, and energies, expecting no reward except such as will come to them from the improved conditions of bee culture. Only as honey-producers are benefited, will any benefit come to manufacturers, dealers, and publishers, yet a heavier burden is placed upon them than upon the actual honey-producer. The contributions of the Board-members alone will reach nearly \$1000.

Every one will, of course, be interested in knowing what forms of advertising will be adopted. Mainly that of advertising in the daily papers and magazines. (No advertising will be done in the bee journals, as that would be simply a waste of money). Probably the first feature will be that of killing, or removing, the false beliefs regarding the manufacture of artificial comb honey. Large space, perhaps one-fourth or one-eighth page, will be used in leading dailies, a large heading reading something as follows:

\$10,000 FORFEITED!

Then will follow an explanation and refutation of the matter, and the offer of \$10,000 as a forfeit to any one who can show a sample of comb honey that has been produced artificially. Of course, care will be taken to word the offer properly, so that no technical advantage may be taken. The best talent of the country will be employed in preparing and placing the advertising. Many papers that publish these advertisements will probably be willing also to publish articles on bee-keeping written with a view to increasing the demand for honey. Possibly firms that print "patent insides" for other newspapers may be induced to use such articles.

At fairs and exhibitions, it may be advisable to have educational honey exhibits, together with the distribution of suitable literature. Possibly it may be well to put stereopticon lecturers in the field; but, as has already been stated, newspaper advertising will be the main feature.

AN ENCOURAGING INCIDENT.

Let me tell just one little incident: On the train, while going home from the meeting, I fell to talking

with a young man who occupied the seat with me. As we became somewhat acquainted, I told him of the object of my trip to Chicago, going somewhat into detail. In reply he said, in substance: "At our home we are fond of biscuits and pancakes, with honey or maple syrup. We send down to Vermont, to an acquaintance, to get the maple syrup, as that is the only way we can feel certain we are getting the pure article. We don't buy honey very often, because, while I had never heard how the story started, as you explain it, I had been led to believe that a good share, even of comb honey, was manufactured stuff (mostly paraffine and glucose) and I didn't care to eat it. I am very glad to have met you, and to have it proved to me so conclusively that I can eat comb honey, and feel that it is the genuine article."

Friends, there are millions of men and women just exactly like my chance acquaintance, and, in the language of the street, it is "up to us" to convince them of the error of their belief. If we could induce one million of them to step into the groceries to-morrow, and each buy one pound of honey, what do you suppose would happen?

This is the work for us to do, and it is the most important work that has been taken up in our line in many a long year. Every other industry is *pushing* its products upon the markets by every means imaginable; are we to sit supinely down and let ignorance, misrepresentation, and business enterprise push our product off the earth? See how new and unknown things are pushed to the front by the force of advertising; let us not lag behind, but use this new force in modern business—*advertising*—to push our delicious product into the position it so richly deserves.

Just a parting word: Don't wait to "see how it is going to turn out." If others are putting in their time and money for the good of the cause—to accomplish something that will help you—meet them half way, join hands with them, do it promptly, and success is assured.

Flint, Mich.

W. Z. HUTCHINSON, Sec'y.

Address all business correspondence, membership dues, etc., to the Manager, George W. York, 334 Dearborn St., Chicago, Ill.

Already the following are entered on the Manager's Membership Book as having paid their first year's dues:

Dr. C. C. Miller.....	\$ 10 00
George W. York.....	25 00
Geo. C. Lewis (for G. B. Lewis Co.).....	210 00
H. M. Arnd (for York Honey and Bee Supply Co.).....	15 00
E. Whitcomb.....	1 00
Arthur L. Boyden (for The A. I. Root Co.).....	610 00
E. Kretschmer (for Kretschmer Mfg. Co.).....	50 00
W. Z. Hutchinson.....	13 00
C. P. Dadant (for Dadant & Sons).....	70 00
Griggs Bros.....	11 00
F. A. Salisbury.....	30 00
A. D. Hopps.....	2 00
Wm. A. Selser.....	10 00
Gus. Dittmer.....	22 00
J. A. Green.....	10 00
C. A. Hatch.....	10 00
Robert A. Holekamp.....	6 00
J. C. Davis.....	5 00
John Nebel & Son Supply Co.....	18 00
Walter S. Powder.....	24 00
J. B. Mason.....	12 00
A. Mottaz.....	2 00
W. T. Falconer Mfg. Co.....	30 00
Alvin Long.....	1 00
W. B. Moore.....	5 00

The National Bee-Keepers' Association.

Objects of The Association.

To promote and protect the interests of its members. To prevent the adulteration of honey.

Annual Membership, \$1.00.

Send dues to the Treasurer.

Officers:

J. U. HARRIS, Grand Junction, Col., President.
C. P. DADANT, Hamilton, Ill., Vice-president.
W. Z. HUTCHINSON, Flint, Michigan, Secretary.
N. E. FRANCE, Platteville, Wis., Gen. Mgr. and Treas.

Board of Directors:

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TREES.—No. 1 at 3 cts.; medium size, 2 1/4 cts., and No. 2 at 1 1/4 cts. each. Tree kept dormant until after May 15th. Circular free.
E. S. Johnston, Box 43, Stockley, Del.

FOR SALE.—Bees, honey, land, and timber.
THO. WORTHINGTON, Leota, Miss.

I will Mail Free

Interesting bee literature, including an eight-page leaflet on queen-rearing; also my experience in curing pickled brood, black brood, and bee-paralysis. Send your address and that of your bee-keeping friends on a postal. . . .

Henry Alley, Wenham, Mass.

'The Best Farm Paper on Earth'

BARNUM'S

MIDLAND : FARMER

Semi-monthly—St. Louis—50c a Year

A large 16-page, carefully edited farm, fruit, stock, and home paper; departments devoted to every rural industry; everything "plain, practical—seasonable and sensible." It tells how just when you want to know. Its subscribers say they "would not be without it for ten times the subscription price." The recognized agricultural authority of the Mississippi Valley. We want to introduce it into thousands of new homes this year, and—figuring on a basis of actual cost—offer it at just one cent per copy. Thus, being a semi-monthly, 24 cts. will pay for one year; or send 10 one-cent stamps, and you will get the next 10 numbers. Can you afford to let this grand offer go by?

Send in your name at once, and—if you will, kindly—add a few names of your farmer neighbors, for free sample copies, and you will greatly oblige

Barnum's : Midland : Farmer

W. M. BARNUM, EDITOR

Allen Building, St. Louis, Mo.

Advertising Rates: 2 cents a word, cash with order.

\$5**FOR A FIFTY EGG INCUBATOR**

The "Cycle" Hatcher is the perfected result of the latest discoveries in artificial incubation—"A Wonder of the 20th Century." The **CYCLE HATCHER** duplicates the natural hatching of the hen. Made from metal it never warps, swells, cracks or shrinks—results always the same. Free Catalog explains the advantages of the metal construction. **Cycle Hatcher Co., Box 223, Salem, N. Y.**



\$12.80 For 200 Egg INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.

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No agent's profits to pay.

THIS IS THE LIMIT.

\$4.50 For a 50-Egg Hot Water, Self-regulating Incubator. Guaranteed to hatch every hatchable egg. \$3 for 50-chick brooder. Only **\$7.50** for complete outfit. 30 days' trial. Send for FREE catalogue.

Buckeye Incubator Co.

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HAWKEYE SPECIAL INCUBATOR

100-Egg Capacity

30 DAYS TRIAL GIVEN

The "Hawkeye" way of proving superiority. Now isn't that fair and square?

WRITE for details of our free trial offer. Hawkeys Instruction Book Free with machine.

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\$9.00

**CHICKS**

...that are hatched in...

IOWA ROUND INCUBATORS

come in big numbers and are healthy and strong. Anyone can see why if they read our catalogue. Even first and Extra Regulation do the work right. Catalogue is Free, Ask for it.

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THE "GEM" MONEY MAKER

hatches chickens at a lively rate—live chickens, too—that live and grow into money. Our catalogue tells of "Gem" features no other Incubator has. Write for copy—it is free.

GEM INCUBATOR CO.

Box 55 Dayton, Ohio

"BEST OF ALL"

That's what users say about the great

PRAIRIE STATE

Incubators and Brooders

Our illustrated catalog tells why they are best. It's free. Write.

Prairie State Incubator Co.,

Box 414, Homer City, Pa.

DON'T BE BOTHERED

with lice on poultry. Schild's Lightning Lice Killing Machine instantly removes them from tiniest chick or fat gobbler, 3 sizes. Also Poultry Bits, Lice Murder, Lightning Lice Killing Powder, etc. Catalog free.

CHARLES SCHILD CO.

301 Detroit St. Cleveland, O.

**THE CROWN Bone Cutter**

for cutting green bones. For the poultryman. Best in the world. Lowest in price. Send for circular and testimonials. **Wilson Bros., EASTON, PA.**

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of Prize-Winning Poultry

for 1905. This book is printed in different colors. Contains a Fine Chromo of lifelike fowls suitable for framing. It illustrates and describes 60 varieties of poultry, ducks, geese, etc. It shows best equipped poultry yards and houses—how to build houses cure for diseases; Best Lice Destroyer how to make hens lay; poultry supplies and such information as is of much use to all who keep chickens. Prices of eggs and stock within reach of all. Send 10 cents for this noted book.

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The POULTRY TRIBUNE,

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